SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONEMNT

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December 2008

Submitted towards the fulfillment of the requirements for the DArch degree

DArch Project
University of Hawai'i at Mānoa
School of Architecture

DArch Committee:
Barry J. Baker – Chairperson
Geoffrey S. Lewis
William R. Chapman

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We certify that we have read this DArch Project and that, in our opinion, it is satisfactory in scope and quality as a DArch Project for the degree of Doctorate of Architecture in the School of Architecture, University of Hawai'i at Mānoa.

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Barry J. Baker
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This DArch project is dedicated to the memory of both my mother, Karen F. Tsutomi, and my father, Richard Y. Tsutomi, who have unconditionally supported me throughout the years.

This one's for you Mom and Dad!

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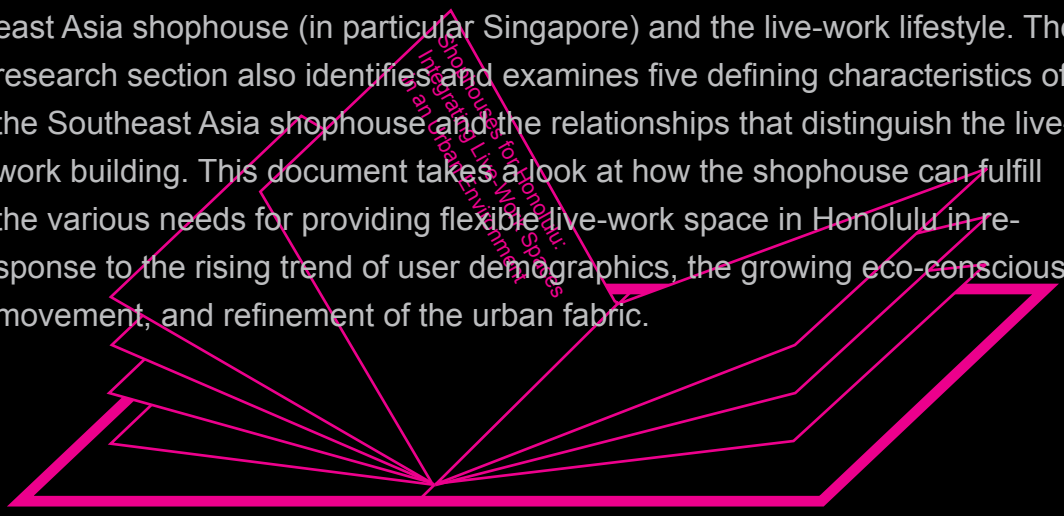
SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT

The research document contains the definition and background of the Southeast Asia shophouse (in particular Singapore) and the live-work lifestyle. The research section also identifies and examines five defining characteristics of the Southeast Asia shophouse and the relationships that distinguish the live-work building. This document takes a look at how the shophouse can fulfill the various needs for providing flexible live-work space in Honolulu in response to the rising trend of user demographics, the growing eco-conscious movement, and refinement of the urban fabric.



PART I: RESEARCH DOCUMENT

SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT

+View of Kakaako Makai in foreground and Kakaako Mauka in midground
"Kakaako." Wikipedia, The Free Encyclopedia. 5 Mar 2008, 04:01 UTC. 10 Sep 2008 <http://en.wikipedia.org/w/index.php?title=Kakaako&oldid=...>

INTRODUCTION

1.0

PART 1: RESEARCH DOCUMENT

1.0 INTRODUCTION >

The city of Honolulu contains a wide array of architectural styles and building types ranging from old plantation day single-wall homes in Makiki to soaring glass towers in Downtown (fig. 1). The variety of architecture encompassed throughout the urban fabric of Honolulu is quite diverse, yet there is an absence of live-work space. It takes a concerted effort to find a building that incorporates living space above working space. The lack of live-work spaces weakens the overall urban fabric of Honolulu.

FIG. 1 View of Honolulu from Tantalus looking southeast
<http://www.flickr.com/photos/life-of-jeffrey/79955005/>

If you span across any noteworthy city throughout Asia or the United States, the shophouse (in one form or another) is a widely accepted building typology. Honolulu symbolizes where East merges with West and yet a metropolis as culturally distinct as Honolulu neglects to provide viable live-work space for its residents. The city of Honolulu must

be revamped to embrace the extensive array of multiuse developments – especially the shophouse building typology – that further enhance the live-work community. The implementation of live-work spaces in strategic urban locations could dramatically improve Honolulu for the better. What more appropriate building typology for Honolulu embodies the bridging of Eastern (Chinese/SE Asian) and Western (British) cultures than the shophouse (fig. 2)?

FIG. 2 Three adjoining shophouses at Duxton Hill in Tanjong Pagar historic district (Singapore)
<http://www.pbase.com/johnglines/image/29232693>

FIG. 3 Hawaiian Islands in the middle of the Pacific Ocean
<http://www.maps-oceania.com/layout/pacific-ocean.gif>

In Lee Kip Lin's book, *The Singapore Shophouse 1819-1914*, writer John Cameron notes during the year 1864, the style of Chinese shophouses "is a sort of compromise between English and Chinese" (1). However, even while Honolulu embodies the "Crossroads of the Pacific" (fig. 3), the city remains reluctant about adopting the shophouse archetype as is evident with the lack of live-work spaces throughout the urban landscape.

The traditional SE Asian shophouse would need to undergo a few refinements before establishing itself on island soil. Some of the obvious issues concerning the integration of the prototypical shophouse of SE Asia onto Honolulu soil pertain to the building form. The shophouse would need to endure slight modifications or devise its own zoning parameters in order to correspond with the City & County of Honolulu Land Use Ordinance.

A major concern that is clearly evident and needs tending to is the “five-foot way” (minimum five-foot width ground-level pedestrian passageway that continuously runs along the shophouse fronts while also providing shelter from the elements) (fig. 4). The pedestrian passageway is difficult to incorporate into the sidewalks of Honolulu as the walkway tiptoes between public and private ownership.

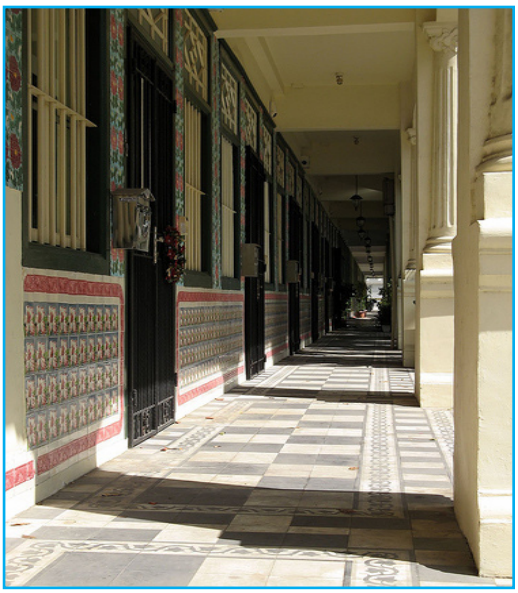


FIG. 4 Five-Foot Way, Little India (Singapore)
< http://www.flickr.com/photos/benlyons/386530542/in/set-72157594587608009/ >

Another characteristic of the shophouse that will need refining is the zero setback zoning allowance that is rarely permitted in Honolulu. The lack of exploiting zero setback allowances is detrimental toward the development of pedestrian oriented streetscapes. The act of buildings being pushed up to their streetfront property line is a significant reason why the SE Asian shophouse and the buildings of Main Street USA are distinctly appealing. There are several other modifications that will be addressed in the Design Proposal section of this project concerning the inclination of the SE Asian shophouse archetype and its ability to acclimate to the urban fabric of Honolulu.

The shophouse (in one form or another) is a highly valid building type utilized throughout Asia and the West as not only a practical and innovative architectural and urban model for living and working on an individual property, but also as an archetype infused with creating identity and life for a city. Essentially, the shophouse is a small-scale urban live-work multiuse development. The shophouse functions as a responsive solution that fulfills various architectural and urban conditions encompassed within a city. It has been far too long that Honolulu hasn’t recognized the importance of offering a variety of live-

work spaces for its residents. The shophouse is an ideal architectural and urban model that can initiate the transformation.

The period of neglecting to integrate viable live-work spaces needs to be halted. The time to be motivated and proactive in jumpstarting live-work multiuse developments like the shophouse is now. Honolulu and all its residents need not settle for mediocrity. Honolulans must demand progressive urban and architectural alternatives that enhance the city. Integrating the shophouse into the urban fabric of Honolulu can be the catalyst that initiates the long needed change.

This DArch project is a research and design synthesis that will introduce a new live-work space akin to the SE Asian shophouse archetype. The Honolulu model will promote and enhance the live-work lifestyle, just as the shophouse does in SE Asia, as an essential component of a city's urban fabric. Part I consists of the Research Document:

-Introduction

-Definition of the Shophouse

-History of the Shophouse

-Definition of Live-Work

-Background of Live-Work

-Defining Characteristics of the Southeast Asian Shophouse

-Validating the Need for the Shophouse in Honolulu

Part II consists of the Design Proposal:

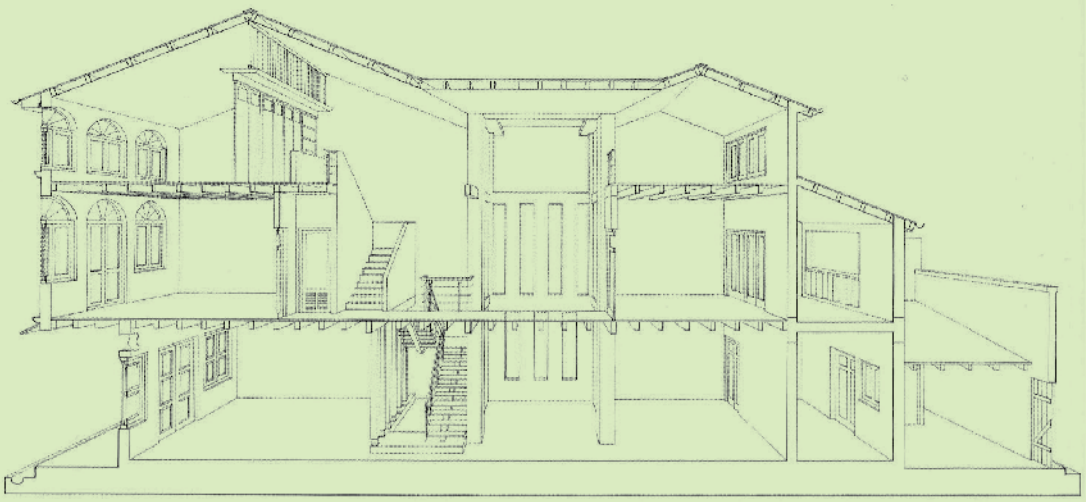
-Client Profile

-Programming

-Site Analysis

-Design

SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT



+Everton Road House by Richard Ho Architects - Singapore, 1995
(Powell, 38)

DEFINITION OF THE SHOPHOUSE

2.0

PART 1: RESEARCH DOCUMENT

2.0 DEFINITION OF THE SHOPHOUSE >

Author Robert Powell indicates in his book, *SCDA Architects*, that the shophouse is "an urban rowhouse typology prevalent in Singapore during the late 19th and early 20th centuries is typically narrow and long, between 5-6 meters wide and 20-40 meters deep" (Powell, 22). The distinctive features that characterize the live-work structure are the five-foot way, the courtyard separating the living from the working areas, the three bay façade, and the gabled roof with ridge running parallel to the street (Powell, 22). Architect Ken Yeang notes in his book, *Architecture of Malaysia*, "the shophouse allows for both home and economic activity (fig. 5) in the same building, with business located on the ground floor and living accommodation for the family upstairs" (Yeang-AOM, 134).

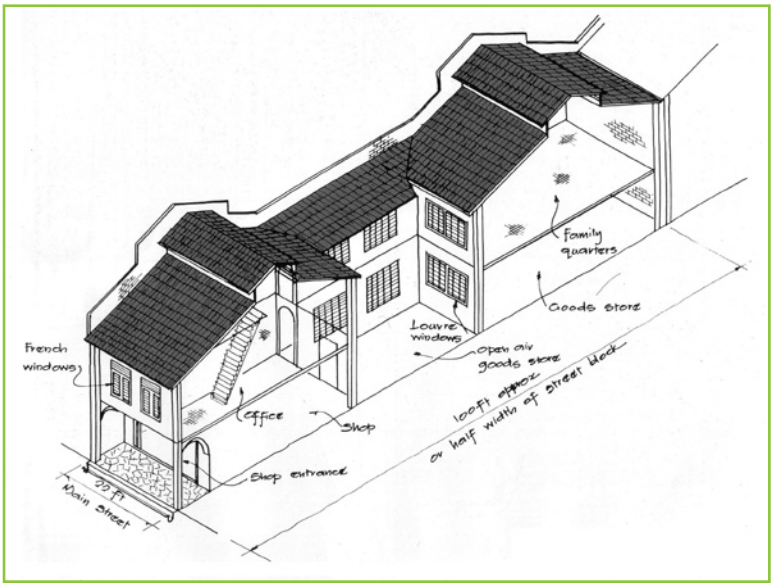


FIG. 5 Shophouse with shop at ground level, office above shop, and living in rear
<Vlatseas 92>

In its most basic form, the shophouse is exactly what the term spells – a shop plus a house. The combination of integrating living and working environments under a single roof existed well before the 19th century in countries such as China, India, and Europe prior to the shophouse reaching SE Asia. However, in 1822, Sir Thomas Stamford Bingley Raffles (fig. 6), founder of Singapore, instructed the Town Planning Committee of Singapore to institute the five-foot way as a mandatory urban component (http://www.apsa2005.net/FullPapers/PdfFormat/Full%20Paper% 20(O-Z)/Wan%20Hashimah.pdf, 3). This modification forever altered the SE Asian shophouse and ultimately the urban landscape of Singapore.

FIG. 6 Sir Thomas Stamford Bingley Raffles
<http://www.nndb.com/people/709/000104397/>

FIG. 7 Sir Frank Swettenham
<http://en.wikipedia.org/wiki/Frank_Swettenham>

In 1884, Sir Frank Swettenham (fig. 7), the British Resident of Selangor, also introduced building by-laws that allowed the five-foot way throughout Kuala Lumpur, Malaysia (Yeang, 35-36). Countries such as Singapore and Malaysia have subsequently created an archetype of their own with the five-foot way as a characteristic that is unique to this region (http://www.apsa2005.net/FullPapers/PdfFormat/Full %20 Paper%20(OZ)/Wan%20Hashimah.pdf, 4). Yeang remarks that the capital city of Malaysia, Kuala Lumpur, should be the tropical verandah city (subsequently the five foot way) where stress is

placed on the street over the plaza, the pedestrian over the vehicle and vegetation over the buildings (Yeang, 64). The shophouse is an ideal candidate to execute Yeang's vision for his native Kuala Lumpur and possibly other cities throughout the world including portions of Honolulu.

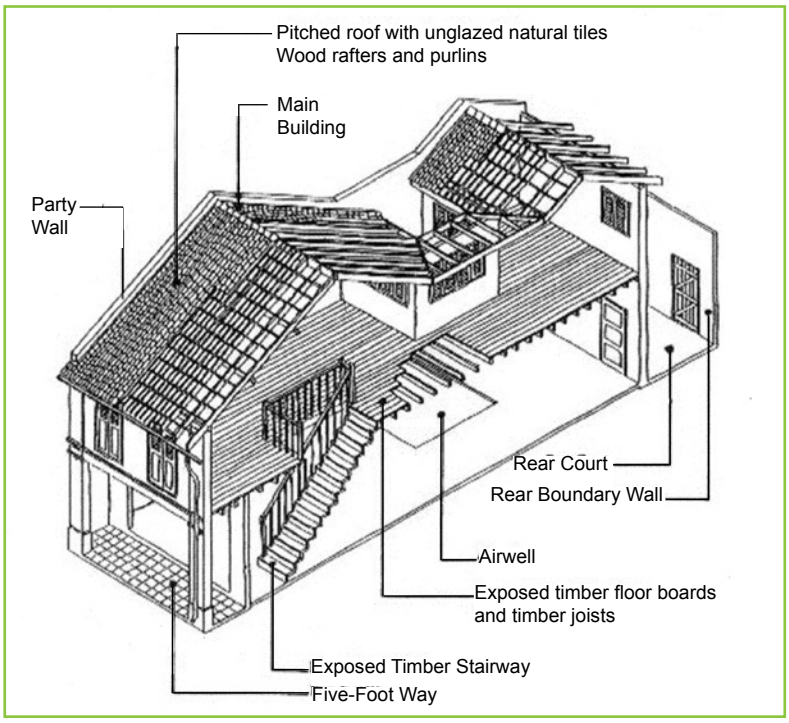


FIG. 8 Narrow shophouse due to span limitations of wood members
<http://www.ura.gov.sg/conservation/mod3ele.htm>

The average size of a shophouse width ranges from 13 feet to 20 feet due to the limitation of building materials (Yeang-AOM, 134) more than a century ago (fig. 8). The taxation owed according to the width of the shopfront façade was another key determinant into why facades were kept so narrow. The shophouse depths are typically two to three times the width (Yeang – AOM, 135). However, some shophouses go as deep as 90 feet to 180 feet because the longer the shophouse, the more courtyards the shophouse will tend to have (http://www.apsa2005.net/FullPapers /PdfFormat/Full%20Paper%20(O-Z)/Wan%20Hashimah.pdf, 4).

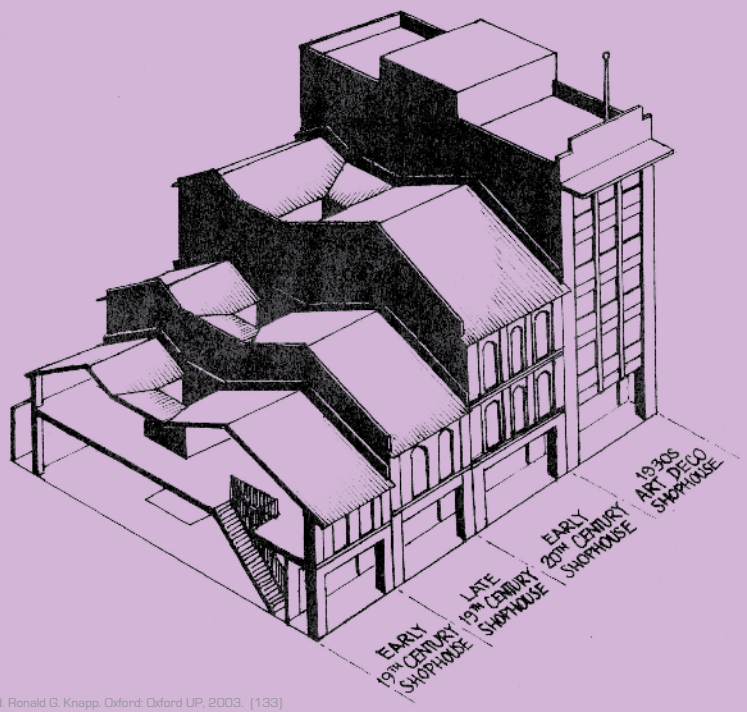
The size of the city block needs to be factored into the equation of how large a shophouse can be. Most shophouses are two to three stories which are preferably scaled for vertical circulation, human movement, and livability. Up until 1925, substandard construction materials and a lack of building technologies had a significant role in limiting the shophouse from exceeding the three story height limit; but soon after, the shophouse started expanding and growing taller (Kohl, 184). Once buildings start to hit the four and five story mark, the practicality of using a stairway diminishes in favor of using an elevator (fig. 9). Elevator or no elevator, the shophouse should remain at a comfortable pedestrian and urban scale suitable to the urban context (fig. 10).

FIG. 9 Contrast between three and four-story shophouses
<http://www.pbase.com/johnglines/image/55567457>

FIG. 10 Contrast between two and four-story shophouses
<http://www.1bnbsingapore.com/images/image_eateries.jpg>

The shophouse is comprised of five defining characteristics that function as separate constituents which remain pertinent to the shophouse. First is the urban context of the building to city block and neighborhood. Second is the dialogue between the building front and the street. Third is the ownership or lack thereof between public space and private space (in particular regarding the building setback and street right of way). The fourth characteristic is the interaction between the living and working areas. Lastly, the degree of separating and blending indoor and outdoor space.

SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT



+Shophouse Timeline
Ho-Yin, Lee. Asia's Old Dwellings. Ed. Ronald G. Knapp. Oxford: Oxford UP, 2003. (133)

HISTORY OF THE SHOPHOUSE

3.0

PART 1: RESEARCH DOCUMENT

3.0 HISTORY OF THE SHOPHOUSE >

The architectural lineage of the shophouse remains a puzzling mystery that has yet to be entirely resolved as there is no distinct evidence pertaining to the exact origin of the shophouse. The historical background of the shophouse is riddled with speculation due to the fact that there is no clear birthplace of the live-work building type. Nonetheless, the shophouse is commonly associated with urban Southeast (SE) Asia (fig. 11), China (fig. 12), the United Kingdom (fig. 13), and other countries that have small-scale diversified commerce akin to a shopkeeper type structure. The various theories regarding the true origin of the shophouse have only substantiated the enigmatic circumstances revolving around the building typology.

FIG. 11 Chinatown Singapore with CBD at rear
<http://www.flickr.com/photos/benlyons/134156474/>

FIG. 12 Street in Guangzhou with shophouses
<http://www.tslr.net/2007/10/shop-house-outside-malaysia-and.html>

FIG. 13 Portobello Road, Notting Hill (London)
<http://cuboidal.org/photos/2005/01/london/IMG_0265>

Several scholars have cited Fujian (Southeast China), Jakarta (Indonesia), Kolkata or Chennai (India) as the birthplace of the built form (http://www.apsa2005.net/FullPapers/PdfFormat/Full %20Paper%20(O-Z)/Wan%20Hashimah.pdf). The Guangdong province (adjacent to the Fujian province in Southeast China) is another possible location attributed as a starting point in the journey of the shophouse to SE Asia. In his book, *The Tropical Verandah City*, architect and author Ken Yeang states that there in the capital city Guangzhou of the Guangdong province exists a precursory prototype to the shophouse. Centuries ago, the common brick party-walled houses that served as live-work spaces also contained a “covered walkway linkage at the front of these attached houses” similar to the shophouse and the five-foot way (Yeang, 35).

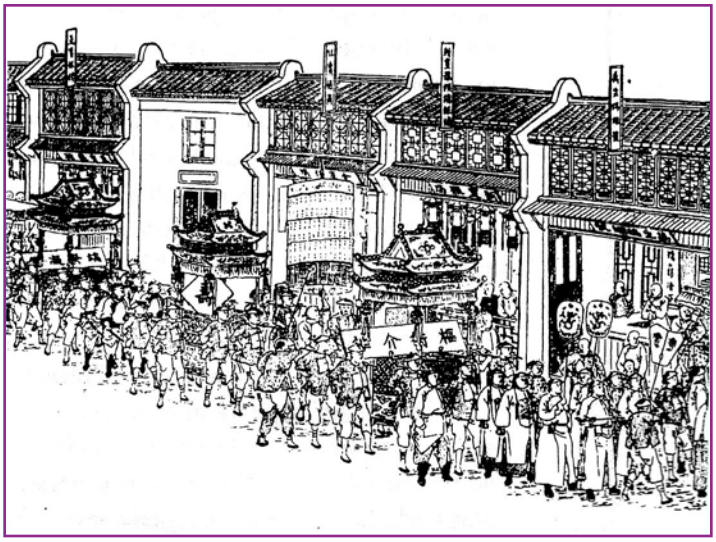


FIG. 14 19th century illustration of Southern Chinese-style urban shop dwellings
<Ho-Yin 115>

In David Kohl’s book, *Chinese Architecture in the Straits Settlements and Western Malaya: Temples, Kongsis and Houses*, the author argues that the shophouse is “an importation from China” (fig. 14) to the land of Malaysia (Kohl, 172). Kohl also maintains that the “origins of the shophouse can be found in both town and village in Southern China” (Kohl, 172). The web article titled, *The Old Shophouses as Part of Malaysian Urban Heritage: The Current Dilemma*, by Wan Hashimah Wan Ismail and Shuhana Shamsuddin

notes that buildings that utilize the ground floor space as a shop and the upper floor as a residence can also be found in other parts of the world such as England, but, there is no five-foot way (http://www.apsa2005.net/FullPapers/Pdf Format/Full%20Paper%20(O-Z)/Wan%20Hashimah.pdf, 4).

In Malaysia, the rowhouses of Malacca were the first prototype housing which blended local and colonial ideas (Yeang, 35). The rowhouse had a covered walkway that continuously spanned across the building fronts to link each structure comparable to the shophouse (Yeang, 35). “The covered loggia pre-dates the standard ‘five-foot way’” (Yeang, 35), but the Malacca rowhouse prototype wasn’t as tectonic as the shophouse which was later developed as a result of the building regulations enforced by Sir Thomas Stamford Bingley Raffles of Singapore in 1822 (Yeang, 35).

The stringent policies laid forth by Raffles required Singapore shophouse designs to become increasingly substantial. It was inevitable that the impermanent rowhouses of Malacca evolve into the more enduring shophouse. The move toward more structurally sound buildings resulted in an altered urban landscape of colonnaded streets throughout Singapore and Malaysia (Yeang, 35).

Nonetheless, the web article by authors Ismail and Shamsuddin states that although “part of the built form can be traced back to Southern China and Europe, the corridor or five-foot-way (kaki lima) added after the 1880’s, gives its unique character” especially for shophouses in Malaysia, Singapore, and other SE Asian countries. It is reassuring to know that even with all the confusion surrounding the lineage of the shophouse, the distinctive role maintained by the shophouse as a live-work building type is timeless. The SE Asian shophouse continues to serve its region and people on a day-to-day basis.

The built form is not as prevalent as it once was many decades ago; yet, the shophouse remains an important building typology emblematic of SE Asian culture. The live-work space is easily identifiable because of certain unique building characteristics. As mentioned above, one of the fundamental architectural features distinctive to the shophouse, in particular to places like Singapore, Malaysia, and Thailand is the five-foot way (later expanded to a minimum of 7.5 feet wide) which is created by the upper second and sometimes third floors extending out past the wall of the ground level space to form a semi-enclosed pedestrianway. Other recognizable characteristics that identify the shophouse is the zero setback allowance; the gabled roof ridges that run parallel to the street; common party walls; airwells; and narrow lots (due in part to the 19th and early 20th century spanning member limitations of roughly thirteen to twenty feet) with elongated depths that are a minimum of two to three times the building's width, but often times deeper or longer than one hundred feet. The shophouse is typically duplicated and repeated with an assortment of various architectural styles and details to encompass several continuous city blocks or neighborhoods (fig. 15).

FIG. 15 Chinatown Singapore
<http://www.flickr.com/photos/sftrajan/2251516605/>

Greater emphasis is placed on the Singapore and Malaysia shophouse archetypes because of their noteworthy prominence and the comprehensive information pertaining to the live-work archetypes of these SE Asian countries. Singapore is one of the foremost

countries that have recognized the importance of their shophouses as being an architectural symbol of their own vernacular (Knapp, 115). Singapore is one of the true pioneers to have developed its own distinctive shophouse archetype as a result of the conditions and circumstances between the British and the local Singapore community (Knapp, 115).

The neighboring country of Malaysia and its shophouse is also inherently similar to Singapore's live-work archetype. The across the board resemblances amongst the Malaysian and Singaporean models are hard to argue. Whether it is the building façades, airwells, or deep elongated lots – the shophouses of these adjacent SE Asian countries are highly analogous.

The multi-purpose function of the shophouse to combine business with residence is indicative of the time period when businesses were predominantly run by an entire family along with extended family members who all lived together in one household (Kohl, 176). The surge of Chinese immigrant populations to the shores of Singapore and Malaysia definitely advanced the proliferation of shophouses across the landscapes of both countries. The size and design of the shophouse was flexible to suit numerous individuals which allowed for numerous residents to live and work all under the same roof.

The evolutionary timeline of Singapore's shophouse model is well-documented and serves as a comprehensive portrayal of the commonalities among the various shophouses throughout SE Asia. Therefore, for the sake of clarity, the primary focus is on the history of the Singapore shophouse (occasionally the Malaysian shophouse) as an exemplary model. The Singapore model epitomizes the broad scope of the SE Asian shophouse milieu that combines Eastern and Western ideas.

FIG. 16 Pre-restoration
<http://www.ura.gov.sg/conservation/mod5.htm>

FIG. 17 Post-restoration
<http://www.ura.gov.sg/conservation/mod5.htm>

Many of the shophouses that are synonymous with this region of the world have undergone a renewed interest that involves preservation and rehabilitation (fig. 16 & 17) of the hybrid live-work building type. Only within the past few years have these countries truly recognized the value the shophouse provides each city, town, and people. Numerous shophouses were and remain in disrepair; however, people are noticeably beginning to realize the importance and value the shophouse exemplifies on not only a people's way of life, but also as a symbolic gesture of their own country. The vast majority of shophouses embody the exchange of dialogue that occurred between the prevailing Asian and European cultures throughout the development of SE Asia. Countries like Singapore and Malaysia have resultantly experienced an architectural and urban evolution by way of the changing patterns of the shophouse.

A renewed interest regarding the shophouse has recently been a hotly debated topic with conferences held throughout the world, but predominantly in Asian countries such as Malaysia (8th International Conference of the Asian Planning Schools Association, 2005) and Hong Kong (UNESCO sponsored International Conference on "Evolution and Rehabilitation of the Asian Shophosue"). The symbolism of the shophouse as a reflection of SE Asia's history, cultural identity, and immigrant past is too precious to ignore (Knapp, 134).

Malaysia trails Singapore in the race to preserve the shophouse, but Malaysia is definitely aware of the apparent significance contained within the live-work building type. Malaysia has recognized that the shophouse does indeed have a positive impact upon the country's image and appeal to both residents and outsiders. The Malay people must not squander the opportunity to preserve a part of their local history and culture by letting each shophouse fall into ruins.

The importance of the shophouse and what it symbolizes to SE Asia has only recently been realized. Singapore is one of the primary leaders to have recognized the value of their vernacular shophouse. The Urban Redevelopment Authority (URA), Singapore's national land use planning authority, has undertaken the vital steps needed in order to preserve their country's shophouses. The prudent care and nurturing Singapore has exhibited for their live-work structures has been well-documented and can better illustrate the evolution and conditions that have molded the current state of the shophouse. Therefore, I will assess the ongoing rebirth of this building typology by examining the shophouse timeline of this island nation that is Singapore.

3.1 THE EARLY SHOPHOUSE (1824 - 1884) >

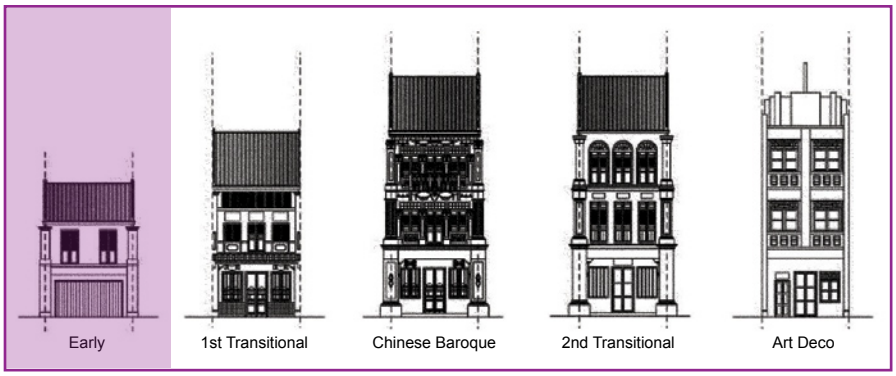


FIG. 18 Shophouse Timeline
<http://www.jstage.jst.go.jp/article/jaabe/6/1/41/_pdf>

Singapore was founded by Sir Thomas Stamford Bingley Raffles who was a British East Indian administrator. Raffles was responsible for procuring the transfer of Singapore to the East India Company in 1819. He was a highly influential policymaker who transformed Singapore into a thriving trading post. He also had tremendous insight into realizing Singapore's commercial potential (Knapp, 119). Raffles sensible yet progressive policies didn't restrict the Chinese-Singaporeans to only build in Chinatown, instead, the Chinese were allowed to expand and develop their shophouses all over Singapore as is evident today (Knapp, 120).

Prior to 1824, a majority of buildings were strictly designed and built by local Chinese contractors and artisans who lacked proper technical training. But, drastic changes occurred once the Treaty of Friendship and Alliance (main island of Singapore ceded to British) and the Treaty of London (Dutch relinquish claim to Singapore) were signed. A drastic boom in development ensued. Everything from administrative, commercial, civic architecture, and infrastructure started flourishing. Occurring concurrently with the growth spurt was the influx of trained professionals from Europe.

These individuals included architects, engineers, surveyors, and draftsman who began

to reshape the urban landscape. European Classicism had officially reached the shores of Singapore in the form of mansions, churches, government, and commercial buildings. The local Chinese builders began replicating the foreign design elements into the shop-houses they were building in response to the surge of European aesthetics permeating the architecture in Singapore, (Knapp, 124). The transformation and modification of European designs by local Chinese to suit the Singapore shophouse is a defining moment that marks the integration of Eastern and Western ideas.

The economy of the Chinese community at this time was a working-class people of low-income. The shophouses of this infantile stage was mainly a reflection of the "contemporary socio-economic situation with its emphasis on tectonic economy and functional simplicity" (Knapp, 124). Therefore, the shophouses of this era didn't include many frills, instead the buildings were (fig. 19 & 20):

FIG. 19 Early period shophouses on Kerbau Road, Little India (Singapore)
<http://www.flickr.com/photos/my_soul_insurance2004/2615077326/>

- *Smaller in size*
- *Lower floor to floor heights*
- *Narrower façade widths*
- *Mostly two stories (even though three level were allowed)*
- *Lack of window and door glazing, instead timber panels and louvered shutters*

FIG. 20 Early period adjacent to transitional period shophouses on Kerbau Road
<http://www.flickr.com/photos/my_soul_insurance2004/2615078228/>

- *Decorated lime plaster finish painted in pastel hues instead of red brick construction*
- *Minimal façade ornamentation, but hints of Neo-Palladian details (Doric orders, archways, and repetitive modules)*

3.2 THE LATE SHOPHOUSE (1884 - 1927) >

FIG. 18 Shophouse Timeline
<http://www.jstage.jst.go.jp/article/jaabe/6/1/41/_pdf>

A period of exponential growth occurred during the latter half of the 19th and early 20th century due to the advancement of shipping from wind-assisted sailing to steam powered engines in the mid 1860's. The change in sea-travel method helped reduce the duration of shipping deliveries. The prime location of Singapore along the East-West shipping route also played a major component in the prospering of Singapore.

While Singapore was starting to thrive, Southern China was in a state of disrepair with poverty, war, and famine running rampant. Beginning during the mid-1850s, thousands of Chinese began fleeing the Fujian and Guangdong provinces for the opportunities that lie waiting in Singapore. The Chinese exodus created a population surge of 55,000 – 87,000 people during 1871-81, and to 164,000 by the turn of the century. Nearly 80 percent of Singapore's total population was now composed of Chinese.

The vastly rising population triggered money hungry developers into designing and building substandard structures (Knapp, 125-126). Realizing the inherent danger of shoddy craftsmanship, the government enacted requirements that required competent professionals to develop drawings that were of satisfactory quality, which in turn raised the standards of architectural design to a certain degree (Knapp, 126).

The new constraints inspired some self-taught Chinese to open their own offices. These men were fairly knowledgeable at designing and constructing buildings, but not very well-versed in executing true European Classicist architecture (Knapp, 126). These moonlighting architects lacked formal training which was definitely apparent in the building designs they executed. The shophouses designed by the classically untrained imposters lacked convincing features such as (fig. 21):

- *Ideal proportion inherent in building façade scale and detail*
- *Authentic European ornamentation*

FIG. 21 Late period shophouse with ill-proportioned stubby pilasters (Singapore)
<http://www.flickr.com/photos/sftrajan/2251517051/>

In addition, the shophouses were often weak, watered-down examples of European Classicism incorporated with Chinese-style ornamentation. Some of these atypical embellishments were “stucco decorative details depicting traditional auspicious objects and symbols as well as mythical creatures (Knapp, 127). Other peculiar adornments included floral stucco patterns mirroring Islamic influences (Knapp, 127). Colorful glazed wall tiles were also used in promoting the clash of Eastern and Western shophouse influences.

As more and more Chinese-Singaporeans got wealthier, their taste for bigger and better things only grew. The style that emerged from this period of opulence is sometimes referred to as “Chinese Baroque”. The results of this newfound affluence distorted the shophouse into becoming an eclectic spectacle. The building typology was altered in ways such as (fig. 22 & 23):

FIG. 22 Late period shophouse in Chinatown (Singapore)
<http://www.flickr.com/photos/sftrajan/2317410289/>

FIG. 23 Late period shophouse in Chinatown (Singapore)
<http://www.flickr.com/photos/sftrajan/2252312494/>

- *Larger and taller shophouse*
- *Wider three-bay façade*
- *Three story structure (instead of two)*
- *Higher floor-to-floor height*
- *Juxtaposition of more formal European Classical elements with Chinese-style motifs*
- *Fluted pilasters and columns*
- *Corinthian capitals*
- *French windows*
- *Palladian-style fanlights*
- *Gaily painted pastel facades with contrasting trimmings and decorative details*
- *Floral plasterwork*

3.3 THE ART DECO SHOPHOUSE (1927 - 1941) >

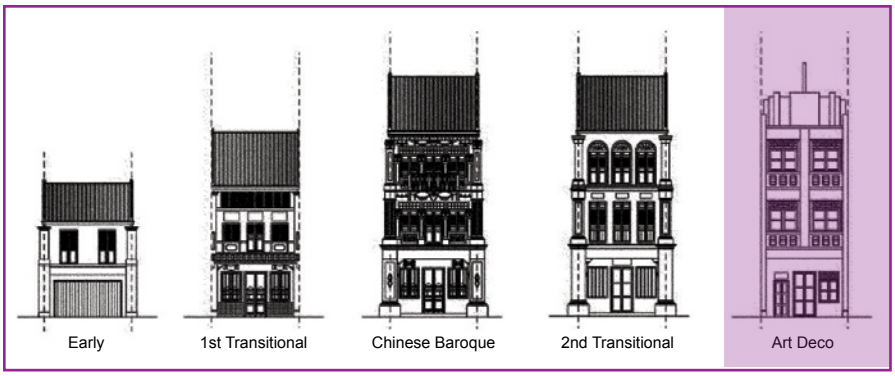


FIG. 18 Shophouse Timeline
<http://www.jstage.jst.go.jp/article/jaabe/6/1/41/_pdf>

The beginning of the 20th century also saw economic growth and prosperity which allowed the Chinese businessmen to import their wives and brides from China. In addition, the predominantly well-off Straits-born Chinese in Singapore married within their tightly-knit social circles. Some of these local men also married Malay and European women who were also upper-middle class. The surging population of locally born Chinese resulted in an expanding elite society.

This upper echelon recognized the value of an English education so the children were often sent abroad to top British schools and universities. A majority of these young adults would then return to Singapore upon graduating from some of the top universities throughout Britain. Some of these second-generation residents now had degrees in architecture and began to practice in Singapore as the first non-European registered architects in Singapore.

A momentous occasion occurred in 1928 when Ng Keng Siang, an associate member of the Royal Institute of British Architects, became Singapore's first locally born architect. The official arrival of Singapore's first licensed architect was befitting because prior to 1928, the Architects Ordinance was enacted in 1926 which now required all buildings to

be designed and construction managed exclusively by licensed architects.

The migration of architects back to Singapore during the late 1920's and 1930's was met with a new architectural trend that was engulfing the world. Art Deco was a design movement that offered a fresh perspective no one had ever seen associated with architecture (Knapp, 130). Cars, ocean liners, and airplanes were the basis of this futuristic inspired trend that lasted a little over a decade.

FIG. 24 Art Deco period shophouse on Teo Hong Road (Singapore)
<http://en.wikipedia.org/wiki/Image:Teo_Hong_Road,_Dec_05.JPG>

What helped Art Deco prosper besides its fairly streamlined appeal was the short but severe economic recession from 1931-32 (Knapp, 130). This recession period triggered the confirmation that Art Deco was here to stay. The architecture of this style lacked heavy ornamentation and anything excessive so it was a perfect match of the harsh economic realities presiding over the 1930's (Knapp, 130) (fig. 24).

The shophouse soon adapted to the Art Deco trend, but not wholeheartedly. Shophouse architecture was torn between Classicism and Art Deco which resulted in a variety of half-hearted designs (Knapp, 130). The design features present in this period of style included:

- *Columns and pilasters*

  (but decorative details were highly restrained)

- *Geometrical motifs*
- *No ornamentation at all except a stepped parapet*

  (with maybe an antenna-like mast)

- *Building's completion date on parapet*

  (resembling a ship or airplane identification number)

- *Cantilevered horizontal fins as the only type of window shading*
- *Smooth plaster finish*
- *Symmetric and elegant proportions*

3.4 THE SHOPHOUSE FROM 1945 TO PRESENT >

FIG. 25 Chinatown Singapore
<Barry Baker>

The Art Deco shophouse marked the end of an era. Shophouses of the post-war period became less and less refined in appearance (Knapp, 131) (fig. 25). In the 1950's, Raffles eased up on his three-story building height limit which allowed the possibility for shop-houses to be built taller. Shophouses of four and sometimes even five stories began to be built around Singapore (fig. 25).

Another change occured once the 1960's came around, the new trend of Functionalism was established in Singapore. This new movement deemed Art Deco an outdated style (Knapp, 131). A shift to even more simplified and utilitarian building forms ensued and the shophouse was not exempted. Even pre-war shophouses that were of ornate detail fell victim. The once highly decorative shophouse facades were masked with tiles or metal false facades.

In the 1970's, shophouse construction and mixed-use design slowed to a stop because of the advent of high-rise public housing and megalithic shopping malls. This downturn of tearing apart the "shop" from the "house" was a blow to many a neighborhood's charac-

ter and charm (Knapp, 133). The evolution of the shophouse had come to an abrupt end (Knapp, 133).

The rush of large-scale development invaded many once quaint neighborhoods resulting in the demolition of numerous blocks of shophouses in the 1970's. Initially, Singaporeans were thrilled with the new and shiny developments being erected around every corner. The local people were finally feeling a sense of ascension by ridding themselves and their landscape from the poverty and decay they associated with the shophouse (Knapp, 134).

But, once the novelty of the revamped Singapore started subsiding; politicians, architects, and the general public came to the realization that Singapore was heading in a completely wrong direction. The country was becoming a place of eroding appeal and character. Singapore started to distort its image by closely mimicking every other modern nation occupied by highrises and massive non-pedestrian friendly structures.

The lack of historical and cultural identity sparked a prideful response in the Singaporean people. They no longer were as carefree and negligent in regards to their future. Everyone began to realize the importance of not only preserving their roots and history, but also the shophouse which is a primary aspect of Singapore's architectural and urban past.

In 1986, the URA took it upon themselves to conserve ten areas that were still occupied by shophouses. The URA also developed a comprehensive conservation strategy for Singapore. In this document were strategies that gave directions on how to go about the conservation and preservation of sensitive structures such as the shophouses in the Boat Quay area of Singapore (fig. 26).

FIG. 26 Recently preserved historic Boat Quay area along Singapore River
<http://www.flickr.com/photos/decadence/460660718/>

By the end of the twentieth century, forty-four areas (5,595 buildings) were given the recognition of conservation status. Author Lee Ho Yin's quote on the life cycle of the shophouse referencing the Buddhist concept of reincarnation with "the Singapore shophouse, having gone through the cycle of birth, growth, death, and rebirth, has come full circle," is an explicit narrative as to how valuable the shophouse can be to a country.

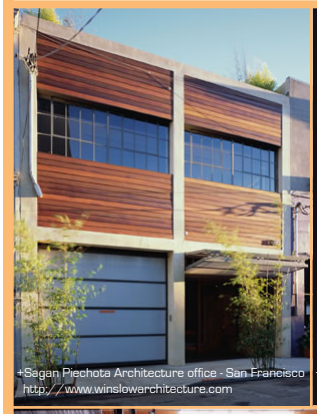
The shophouse has served and continues to serve Singapore well. The building typology that allows a mixing of uses such as living and working has affected the urban landscape of Singapore for the better. Proof of the Singapore shophouse archetype's ability to stimulate a community is certainly evident in the recognition by the URA to fully preserve these buildings with the utmost care and consideration. Afterall, the Singapore neighborhoods that contain these shophouses are some of the most interesting places to visit and experience how local life is lived.

The validity of the shophouse to impact a community is still highly relevant as is apparent in the Singapore urban landscape. How the Singapore shophouse has regained its prominence by coming full-circle wasn't an accident. The Singapore shophouse evokes

a vivid picture of its significance upon a community and the livelihood of its people. The realization of that value and the appeal of a live-work building typology contributed in selecting the Singapore shophouse to serve as the inspirational vehicle for live-work spaces in Honolulu. The shophouse has the capacity of revealing the intrinsic potential contained within its walls to enhance the urban landscape of Honolulu.

The intent of this study is to show that Honolulu requires its own shophouse archetypes to promote and enhance the live-work lifestyle as an essential part of Honolulu's urban fabric. The dynamics of street life would be greatly reduced if the shophouse were to revert back to a single use space (Miao, 143). Honolulu needs to integrate live-work building types that help encourage this city toward becoming an increasingly dynamic place where people can truly live, work, and play together. Singapore's shophouse is deeply rooted with over a century's worth of architectural tradition and heritage, yet Honolulu can still enrich itself by developing its own unique shophouses that draw inspiration from our remarkably distinct location, culture, and history.

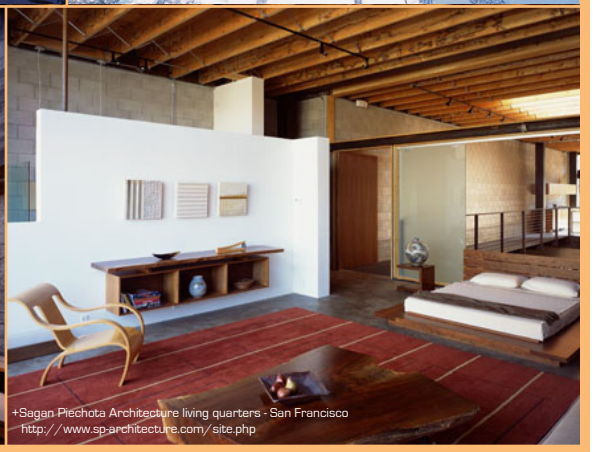
SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT


+Sagan Piechota Architecture office - San Francisco
http://www.winslowarchitecture.com


+Sagan Piechota Architecture entry- San Francisco
http://www.winslowarchitecture.com


+Sagan Piechota Architecture conference room - San Francisco
http://www.sp-architecture.com/site.php


+Sagan Piechota Architecture work areas - San Francisco
http://www.sp-architecture.com/site.php


+Sagan Piechota Architecture living quarters - San Francisco
http://www.sp-architecture.com/site.php

DEFINITION OF LIVE-WORK

4.0

PART 1: RESEARCH DOCUMENT

FIG. 27 Live-work studio (Pittsburgh, PA)
<http://www.sdapgh.com/project2.html#>

FIG. 28 Rear yard space
<http://www.sdapgh.com/project2.html#>

4.0 DEFINITION OF LIVE-WORK >

The underlying premise of live-work according to Thomas Dolan Architecture (TDA), one of the premier architectural firms throughout the U.S. specializing in live-work, is “a building or buildings that provide both residential and work space on a single property, some of whose residents might work there, and that might also accommodate non-resident employees” (http://www.live-work.com/about_tda/ brochures/tda_code.pdf, 3). Live-work (fig. 27 & 28), sometimes called Zero Commute Housing (http://www.live-work.com/about_tda/ brochures/tda_code.pdf, 13), encompasses a variety of forms, and appeals to a vast assortment of users.

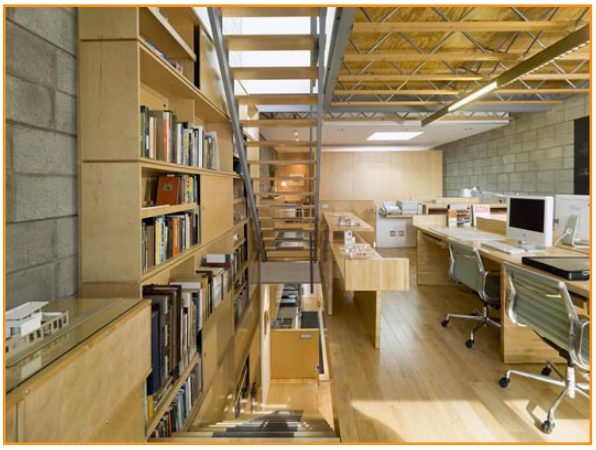


FIG. 29 Work space on second level (Pittsburgh, PA)
<http://www.sdapgh.com/project2.html#>

FIG.30 Kitchen & dining on ground level
<http://www.sdapgh.com/project2.html#>

Occupants can vary immensely whether it is commercial; light industrial; office; institutional; or any other pertinent use. Live-work spaces are able to accommodate a vast scope of entrepreneurial individuals from the starving artist in an old warehouse loft to the wealthy empty nester seeking out their lifelong dream of operating a business. Followers of the live-work lifestyle are as diverse as they come so long as there is a residential component included. Ample possibilities exist as a live-work unit can be a shop-house; home office; residence over retail, commercial, or light industrial space; and any other type of structure where living is integrated with economic activity (fig. 29 & 30).

As indicated by TDA, “live-work is about flexibility, mixed-use, and proximity” (http://www.live-work.com/about_tda/brochures/ tda_code.pdf, 3). The core essence of live-work is the ability possessed by the building to always adapt to the owner’s changing needs. The crucial aspect as to why living and working on a single property is so great is because people continuously evolve throughout their life, and their place of living and working should reflect that development.

SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT

+ Row of shophouses in Emerald Hill neighborhood (Singapore) containing working space at ground level and living space up above
Benjamin Lyons. Emerald Hill. 4 March 2007 < http://www.flickr.com/photos/benlyons/409900898/in/set-72157594584097199/>

BACKGROUND OF LIVE-WORK

5.0

PART 1: RESEARCH DOCUMENT

5.0 BACKGROUND OF LIVE-WORK >

The concept of live-work is similar to the shophouse in that both live-work and the shophouse have no definitive origin. The theory of mixing various uses dates far back to ancient Greece, the medieval market square (FIG. 31), and the assortment of residential and commercial uses prevalent throughout many 19th century European cities (ULI-2, 3). Multiuse spaces where residents live and work on the same property were highly widespread throughout Asia as well in countries like China, Japan, Korea, and SE Asian countries like Singapore, Malaysia, Vietnam, and Thailand. The notion of live-work harkens back to the pre-automobile era where people would live where they work as that was the most logical and financially sound option available to save time and money.

FIG. 31 Echternach's medieval market square in Luxembourg
<http://www.tourist-offices.org.uk/Luxembourg/gallery/>

In the United States, artists were partially responsible for initiating the live-work phenomenon (http://www.live-work.com/lwi/codes/truths.shtml). Artists may not have been the first group of people in the U.S. to partake in the live-work lifestyle, but they are definitely the movement that contributed toward making the live-work lifestyle marketable and hip. During the mid-20th century, artists required affordable spaces that could almost only be found in older industrial buildings. As more and more artist moved into these low rent industrial neighborhoods, rents began to rise due to the demand of both artists and non-artists wanting to be associated with the arts scene. Soon enough, old warehouse districts such as SoHo in New York City – once a place of relatively low rent industrial and manufacturing type buildings – transformed itself into a highly affluent neighborhood of less and less actual creative individuals (fig. 32). High end residences, boutiques and restaurants began to heavily dot the SoHo neighborhood with only a handful of remaining artists who had the foresight to buy their co-ops before the property values skyrocketed.

FIG. 32 Loft in SOHO, New York where artists were driven out by non-creative types with wealth <http://www.jossip.com/wp/docs/2007/07/30-crosby-street.JPG>

The gentrification that occurred in SoHo is typically know as the “SoHo Effect” and has been witnessed in several cities throughout the United States where the rich and affluent want a slice of the action. The wealthy infiltrate these median income areas and start

buying up property to force out the original, longtime residents who can no longer afford the inflated rents and mortgages. There needs to be a balance that ensures local residents and their small businesses – often in the form of live-work spaces – the opportunity to thrive and flourish.

There is a variety of zoning measures, financial provisions, regulations, sanctions, financial incentives, and tax policy incentives that can help neighborhoods and cities to prevent gentrification, residential reversion (tendency of live-work unit to become live-live unit) and out of control rents (http://www.live-work.com/lwi/codes/truths.shtml). Some of these regulations touch on designating certain live-work spaces as rental only; long-term rent subsidies; or the creation and enforcement of “Artists’ Protection Zones”, or “Live-Work Incubators” (http://www.live-work.com/lwi/codes/truths.shtml) (fig. 33, 34, & 35).

FIG. 33 Eight live-work loft complex in Seattle
<http://seattletimes.nwsource.com/ABPub/zoom/html/2004360759.html>

FIG. 34 Legal office overlooking courtyard
<http://seattletimes.nwsource.com/ABPub/zoom/html/2004360760.html>

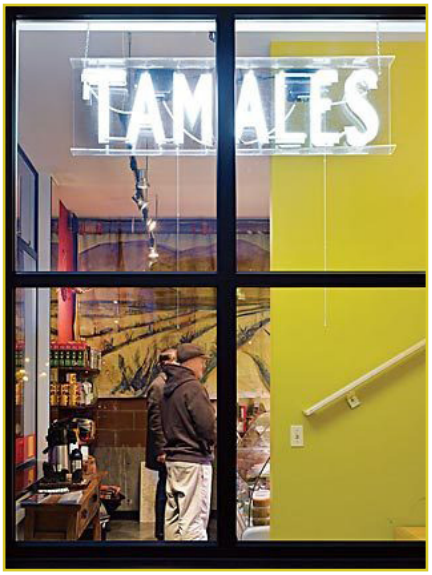


FIG. 35 Tamale shop at street level with architecture office above
<http://seattletimes.nwsource.com/ABPub/zoom/html/2004360758.html>

As noted on Thomas Dolan Architecture’s website, http://www.live-work.com/lwi/codes/ index.shtml, “live-work is a strange animal which combines residential and commercial use, and is at once neither and both.” A live-worker

can also be considered a follower of an atypical lifestyle in that their life isn't similar to the traditional nine to five office worker. Instead, the lifestyle of a live-worker is non-traditional and primarily revolves around a single property where living, working, and possibly playing occurs each day and night. Having to venture out miles away from home is not required on a normal day to day basis. Therefore, many followers of the live-work lifestyle must be focused, driven, and entrepreneurial in their genetic makeup in order to prosper. The opportunity to get distracted from work can be easy when your home is so close to your place of work – often times only a few steps away.

There are three main types of live-work options according to http://www.livework.com/lwi/ basics/unittypes.shtml. The first category is Home Occupation which is commonly what most people think of when they hear "working at home". This space is clearly a residence that may or may not contain a workspace, often in the form of an office or workshop (http://www.live-work.com/lwi/basics/unittypes.shtml) (fig. 36).

FIG. 36 Live-work space that is chiefly a home with possibility of an office
<http://www.vmrdesigns.com/clients/MKD/homes/mkloft/images/mkloft-main.jpg>

The second option is Live-Work. This unit type indicates that the predominant use of the unit is residential, and commercial activity is a secondary use (http://www.live-work.com/lwi/basics /unittypes.shtml) (fig. 37). Employees and walk-in trade are

FIG. 37 Firclay Lofts in Denver where street level space is either working or living with additional living up above
<http://www.denverinfill.com/images/redev/ballpark/12_fireclay_south2.jpg>

not usually permitted for this alternative (http://www.live-work.com/lwi/basics/unittypes.shtml).

The third type of live-work unit is Work-Live which is the opposite of Live-Work in that the work component takes precedence over the residential lifestyle (http://www.live-work.com/lwi/basics/unittypes.shtml) (fig. 38). The Work-Live option tends to have a predominant commercial or industrial work activity where residence is a secondary use.

FIG. 38 Sagan Piechota Architecture office with single living quarters behind glass wall up top <http://www.sp-architecture.com/site.php>

The shophouse design for Honolulu falls between the Live-Work and Work-Live categories defined by the TDA website http://www.livework.com/lwi/ basics/unittypes.shtml. Although the Honolulu shophouse seems to be closer related to the Work-Live unit type, for the sake of familiarity and clarity, the term Live-Work will be used to describe the Honolulu shophouse design. The reason being is that most people have heard of and know what Live-Work consist of when compared to Work-Live. Therefore, the term Live-Work will be utilized throughout this paper to identify with the live-work lifestyle and its followers.

SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT

+ Axonometric illustration exposing the interior of a shophouse
Ismail, Wan Hashimah Wan and Shuhana Shamsuddin. Theold Shophouses as Part of Malaysian Urban Heritage: The Current Dilemma. Malaysia. 2005 <http://www.apsa2005.net/FullPapers/PdfFormat/Full%20Paper%20(O-Z)/Wan%20Hashimah.pdf>

DEFINING CHARACTERISTICS OF THE SOUTHEAST ASIAN SHOPHOUSE

6.0

PART 1: RESEARCH DOCUMENT

6.0 DEFINING CHARACTERISTICS OF THE SOUTHEAST ASIAN SHOPHOUSE >

Five relationships have been devised which examine the defining characteristics that compose the SE Asian shophouse. The five relationships will be the primary methodology used to determine what has made and continues to make the SE Asian shophouse a responsive live-work space that successfully functions as a sensitive architectural and urban building type. The five relationships are:

1-Bldg to Block/Neighborhood

2-Bldg to Street

3-Public to Private

4-Living to Working

5-Indoor to Outdoor

Countries like Malaysia and Singapore are home to some of the finest examples of shophouses. The SE Asian corner of the world boasts a large amount of shophouse prototypes that house an extremely diverse array of businesses. Some of these ground floor spaces contain uses such as an acupuncturist, camera shop, clothing boutique, café, restaurant, florist, jewelry store, antique shop, office, and art gallery to name a few. The shophouses of the SE Asia region provide a highly valid live-work model for various types of individuals. The building owner, user, and general public can all benefit from what the shophouse provides as a small scale locally owned business.

The building owner can use the live-work space for a variety of functions that can enhance the prosperity for both the owner and the community as opposed to a structure that doesn't permit a mixture of uses. Within a live-work structure like the shophouse, the building owner and user are able to benefit by utilizing the multiple levels of space (typically a second and sometimes third floor) to their utmost potential. Firstly, the ground level space is often challenging for people to live in with the noise and privacy issues resulting from the pedestrian foot traffic directly outside so living quarters are best reserved for the upper levels. In addition, the ground level space is best utilized as a place of economic activity as it can exploit and capture the attention of a passerby much easier than if that space were on the second floor (fig. 39).

Secondly, the upper floors can be used as an extension of the ground floor commercial space if need be or as residential space depending on the amount of floors within the shophouse. By having residents live above their work space instead of a building filled with only work spaces generates an increased amount of foot traffic. A cultural and social synergy is allowed to evolve through use and inhabitation (Singapore Architect-April 2005-Vol.226, 90). An increasingly greater critical mass of pedestrian foot traffic can not only stimulate the various businesses that compose the neighborhood, but also enrich the streetlife that is so important in helping to shape a community. The shop-

FIG. 39 Life along the five-foot way in Bugis Junction (Singapore)
<http://www.flickr.com/photos/debbieuy/1853512624/>

houses can, need to, and do provide the right diversity of small businesses and work spaces for an urban environment to gain additional quality merchants, retailers, service providers, and any other owner-occupant that can fulfill the live-work lifestyle.

FIG. 40 Rowell Road, Little india (Singapore)
<http://www.flickr.com/photos/my_soul_insurance2004/2666214942/>

The significance of the two to three story shophouse is the ability possessed by these buildings to really shape a comfortable urban environment that is of the pedestrian scale. The relationship a shophouse has with its city block and neighborhood illustrates both the bloodline of a community and the pulse of urban life (fig. 40 & 41). Listed below are the five relationships devised to designate the fundamental defining characteristics as to what encompasses the SE Asian shophouse.

FIG. 41 Contrast of old and new with shophouses framed by Central Business District
<http://www.flickr.com/photos/cole_singapore/472462524/>

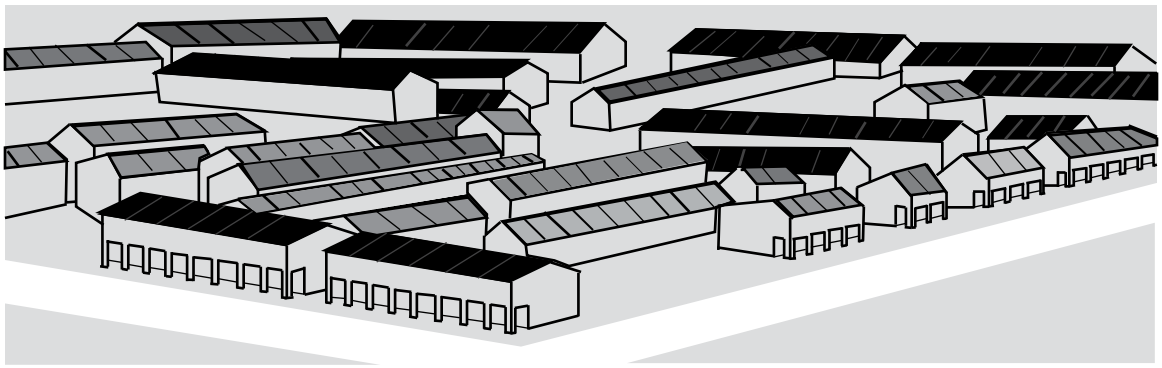


FIG. 42
<Tsutomi>

6.1 – Relationship of Building to Block/Neighborhood (fig. 42) >

What really sets the shophouse apart from other building types is the capacity of how a live-work structure like the shophouse can really enhance a neighborhood. The city blocks throughout many SE Asian countries lined with shophouses generate an intimate yet dynamic state of pedestrian activity.

The urban scale of the shophouse and how it is typically less than twenty feet wide and no more than three stories tall lends itself to being of an extremely pedestrian nature (fig. 43). The uniform characteristics of the common party wall and the zero building setback of each individual shophouse help to infuse city blocks with clusters of live-work spaces. The cohesive nature of the shophouse can nurture neighborhoods to be highly suitable pedestrian-oriented communities whether the location is Singapore or Honolulu. The multitude of characteristics as to how a shophouse can take on a variety of forms is uniquely appealing and should be taken advantage of here in Honolulu.

FIG. 43 Pedestrian oriented nature of shophouse to city block/neighborhood
<http://www.flickr.com/photos/ez2axs/1333416425/>

The shophouse has two significant traits that allow it to delve into two arenas: 1 – Urban design; 2 – Architectural design. First off, the shophouse can impact and influence the design and character of an individual city block or blocks. The shophouse must always consider the macro-relationship it has with the greater urban realm due to a number of its intrinsic features (five-foot way, zero setback, common party wall, etc.).

FIG. 44 Cohesive mixture of shophouses containing Ayurvedic medicine, food & beverage, and vegetable trading
<http://www.flickr.com/photos/10062987@N03/1392354602/>

FIG. 45 Multi-use buildings that do not correlaete well with one another along Waialae Avenue in Kaimuki (Honolulu)
<Tsutomi 2007>

Many of the elements that shape the shophouse can dramatically affect the city block and neighborhood. The design of a shophouse needs to be much more cognizant of a variety of issues compared to a similarly scaled low rise apartment or office building in the same location (fig. 44 & 45). The five relationships noted above (building to block/neighborhood; building to street; public to private; living to working; and indoor to outdoor) reveal characteristics that specify what the shophouse is, and how and why the shophouse can be a responsive solution toward the integration of live-work spaces in an urban environment.

Secondly, the shophouse can impact and influence the design and character of the actual live-work space. The propensity of the shophouse to be an extremely flexible volume of spaces that can adjust to the needs of its occupants is inherent to the shophouse. Greater architectural thought will be given to the shophouse in the other four relationships that follow this building to block/neighborhood relationship.

The shophouse has the potential to influence a number of changes upon a neighborhood: first off is the ability to Improve Way of Life (walkability, know thy neighbor, human scale); second is to Increase Denser Communities and Decrease Urban Sprawl (urban living, live-work-play, smart growth,); third is to Create an Enhanced Sense of Place (mold identity, small business advantage, human sensory).

6.1.1 - Way of Life >

The quality of life throughout America is on the decline and has been for sometime according to author and urban planner Peter Katz, in his book, *The New Urbanism*. Katz notes that America needs to execute an about face turn from its current downward spiraling path of sprawl and return to the once forgotten splendor of the iconographic close-knit communities of yesteryear America (Katz, ix) (fig. 46 & 47). The baby-boom generation is well aware of the dissolving American Dream that is synonymous with the halcyon days of their parents (Katz, x). Katz notes that “we’ve been teased by the promise, yet denied the benefits of this so called ‘dream’” and he now feels that if New Urbanism can address the challenges of wisely moving forward by going back to and learning and improving from the past, America should embrace the reshaping of its communities to deliver an improved quality of life (Katz, x).

FIG. 46 Inefficient use of land Urban Sprawl
(Sun City, Arizona)
<http://www.nytimes.com/imagepages/2004/06/16/garden/17sprawl.1.html>

FIG. 47 Bradburn Village Greenfield development: retail, office, central plaza, residential (rowhouses to mansions) efficient use of land (Westminster, Colorado)
<http://www.dpz.com/pdf/9915-Project%20Description.pdf>

The dynamic relationship between the shophouse and the city block and neighborhood can dramatically impact the urban design and feel of a city. Poor quality of life is a common problem for numerous urban dwellers. Having no quality places to shop, eat, or play within a comfortable walking distance or not knowing any of your neighbors on a first name basis are just some of the drawbacks residents of urban environments encounter on a daily basis. The shophouse can resolve these dilemmas by accommodating a diverse array of uses that encourage residents to make connections with each other.

The shophouse has the ability to bring a neighborhood closer together both physically and emotionally. On the physical side, the shophouse has a relatively narrow building width which can fit on rather small lots. Therefore, a large amount of shophouses can fit on a city block to provide a multiplicity of work spaces that offer a vast spectrum of services and retail selection (fig. 48). The minimal size of the shophouse can also provide an intimate neighborhood setting that is distinctly pedestrian oriented. All a resident has to do to satisfy their needs is walk down the block and get that haircut or bowl of ramen they desire.

FIG. 48 Ample food and beverage establishments along Smith Street Chinatown (Singapore)
<http://www.flickr.com/photos/wantet/531004378/>

On the emotional side, live-work spaces force building owners, occupants, and customers to be much more interconnected and semi-reliant on their neighboring businesses. The intimate nature of each building being attached to one another enriches the relationships among shophouse occupants. A city block of commercial spaces are only as successful as their weakest neighbor because every business is dependent on the customer. Each work space can benefit by reaching out to as many customers as possible in order to broaden their customer base. What better way to lure a customer in then to have them already walking by outside your entryway. Therefore, by developing and cultivating a healthy array of businesses, the relationship of the shophouse to the city block and neighborhood can help to improve the way of life for live-worker as well as their customer base.

6.1.1a - Walkability >

FIG. 49 Kentlands TND (Gaithersburg, Maryland) by Duany Plater-Zyberk (DPZ)
<http://www.dpz.com/popup3.asp?Project_Number=8805&ImageNumber=5&Project_Name=Kentlands>

New Urbanism began in the early 1980's as an urban design movement that was a reaction to urban sprawl. In 1993, architects and planners such as Peter Calthorpe, Michael Corbett, Andres Duany, Elizabeth Moule, Elizabeth Plater-Zyberk, Stefanos Polyzoides, and Daniel Solomon founded the Congress for New Urbanism (CNU) which is the foremost organization advocating New Urbanist ideals. These individuals along with the current 3000-plus members (20 counries and 49 states) believe in "promoting walkable, neighborhood-based development as an alternative to sprawl" (http://www.cnu. org/who_we_are) (fig. 49). The movement continues to gain momentum by taking a proactive and multi-disciplinary approach to restoring communities (http://www.cnu.org/ who_we_are). The CNU advocates the restructuring of public policy and development practices to promote their principles, all of which have an underlying premise of Traditional Neighborhood Design (TND) (fig. 50 & 51) and Transit-Oriented Development (TOD) characteristics.

FIG. 50 Illustration by DPZ, TND on top (more grid-like street formation) and suburban sprawl below (more curvilinear street design). TND signifies walkability and interconnectivity between uses while sprawl requires use of automobile as uses are separated and less walkbale
<http://www.dpz.com/research.aspx>

FIG. 51 Illustration by DPZ, TND on top (with five-minute radius) and suburban sprawl below. Majority of area within TND in attainable by a five-minute walk (easy navigation through grid-like street pattern) compared to suburban sprawl that lacks interconnectivity (vine-like street layout makes places that should be close to each other actually further apart). The lack of right angles in the suburban sprawl neighborhood caters to the automobile at the expense of the pedestrian.
<http://www.dpz.com/research.aspx>

TND is a more descriptive term used to define New Urbanism. TOD is similar to TND, but the main difference is the incorporation of transit playing a significant role in the urban design of a neighborhood. “A transit-oriented development (TOD) is a mixed-use residential or commercial area designed to maximize access to public transport, and often incorporates elements to encourage transit ridership. A TOD neighborhood typically has a center with a train station, metro station, tram stop, or bus station, surrounded by relatively high-density development with progressively lower-density development spreading outwards from the center (fig. 52). TODs are generally located within a radius of one-quarter to one-half mile from a transit stop, as this is considered to be an appropriate scale for pedestrians.” (http://en.wikipedia.org/wiki/Transit-oriented_ development).

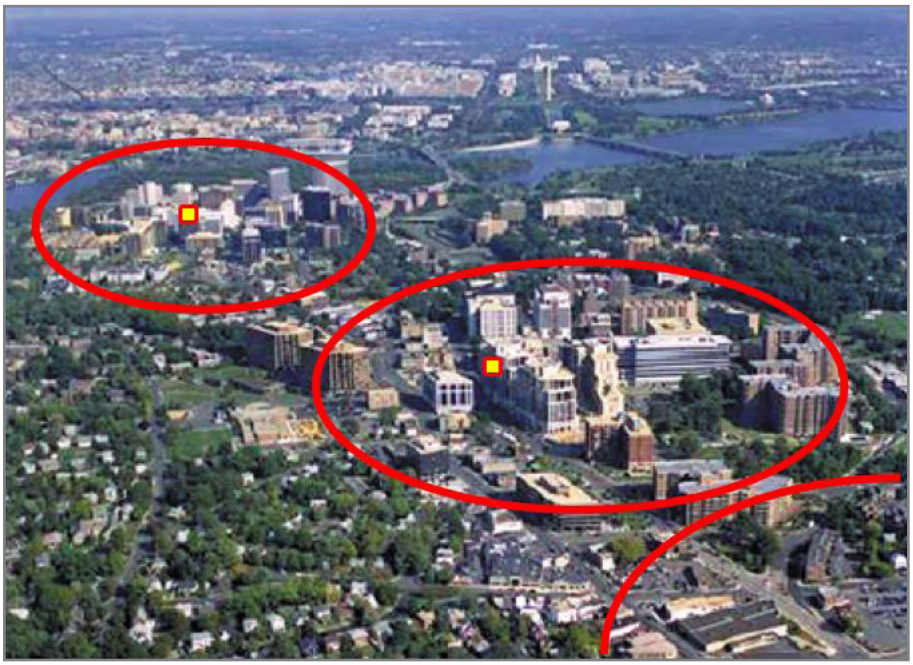


FIG. 52 Arlington County, Virginia TOD where transit stops are surrounded by concentrated mixed-use development within a 1/4-1/2 mile radius
<http://upload.wikimedia.org/wikipedia/en/3/3d/ArlingtonTODimage3.jpg>

The fundamental concept prevalent throughout New Urbanist thought is walkability which has existed for centuries due to the fact that people didn’t have a choice prior to

the arrival of the automobile. People are now polluting the environment at record pace while becoming physically less active as they are so accustomed to hopping in their automobile to make a quick jaunt to their destination. The return to walkable neighborhoods has been spurred by the movements of Smart Growth, New Urbanism, and T.O.D. where the ¼ mile (five minute) and ½ mile (ten minute) walking radius of a community's central core to anywhere throughout the town is essential to its urban design.

The arrangement of shophouses along a city block speaks to the ability of the live-work structure serving as both an architectural and urban design model that can encourage and promote walkability. The opportunity to allow people to live directly above their places of work and next to other commercial establishments in reasonable vicinity makes for an improved quality of life. Urban residents don't have to rely on the automobile as much as their counterparts in suburbia. By living and working in or near a neighborhood of shophouses, residents can fulfill many of their needs such as getting a haircut, eating a meal, or dropping their dog off at the veterinarian because a shophouse can accommodate a vast spectrum of businesses.

The thought of owning a car is minimized for individuals who live in a shophouse since they don't have much of a commute. A bicycle or moped can be a more sensible form of transportation. However, if not owning a car is too radical a change, occupants of a shophouse may want to consider owning a single car instead of two vehicles.

The location of a shophouse is critical toward its success as both a place to live and work. The shophouse can be strategically located in various areas within a city due to the live-work space not being specifically categorized as either completely residential or completely commercial in use. Where a shophouse is situated can greatly influence the walkability aspect of how far everything is for you to get to and how far your business is

for people to come to. Most shophouses would ideally be in neighborhoods where access by foot is quite easy and painless.

According to http://www.live-work.com/lwi/codes/truths.shtml, prime locations for shophouses are in mixed-use districts or in the middle ground in such areas between residential and commercial/industrial; between downtown commercial and industrial; or on the periphery of residential neighborhoods. The underlying theme is that the shophouse should fall in pedestrian oriented neighborhoods that are between zoning types. The transition between two zones is often where the shophouse is most successful (fig. 53). The live-work structure is a volume of flexible spaces (not a singular use, but instead multiple-use) that transitions on a changing basis, yet always remains a combination of both living and working all in a pedestrian friendly zone.

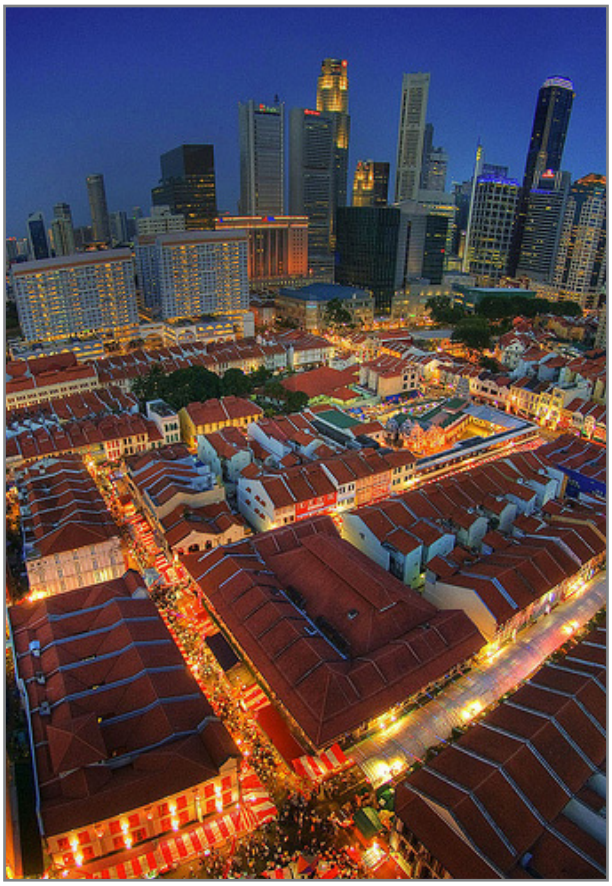


FIG. 53 Chinatown (Singapore) in the foreground transitioning between the CBD in the background and medium-lower density zoning
<http://www.flickr.com/photos/camboy/2247906524/>

When the shophouse becomes more of a shop or more of a house is when problems begin to occur in a neighborhood. When a shophouse becomes shop only, a loss of residential foot traffic occurs and community pride starts to waiver due to a lack of people actually living and creating foot traffic in the neighborhood. When a shophouse becomes strictly residential, businesses begin to suffer because there is a reduced amount of variety and appeal for a block of shophouses. Having only half the actual shops open for business and the remaining half of shophouses as only houses is detrimental for pedestrian oriented neighborhoods. The living and working components of the shophouse are equally valid in order for their survival. The neighborhood suffers when live-work spaces aren't live-work.

Another quality of life issue for the urban dweller is the fact that most city cores shut down at sunset when the office workers go home to their single family houses miles away in suburban town USA. The shophouse, on the other hand, combines uses that can promote foot traffic for commercial establishments at street level throughout both the day and the night due to residents coming and going at all hours (fig. 54). As argued by Jane Jacobs, author of the book, The Death and Life of Great American Cities, "on successful city streets, people must appear at different times" (Jacobs, 152).

FIG. 54 Bustling street market in Chinatown (Singapore) during dusk
<http://www.flickr.com/photos/camboy/2247906524/>

The businesses run in a shophouse can operate at various hours throughout the day and night to transform a street and its residents by encouraging and sustaining life beyond the normal nine to five (eight hour) work day. By bringing about an intense critical mass of people as frequently as possible throughout extended hours can activate an environment for prolonged periods of time (up to eighteen hours per day) to help stimulate a neighborhood. The more activity on the street can also make people feel safer to venture out even when it is dark. The support of pedestrianism that also promotes commercial foot traffic can enrich the way of life for a vast amount of residents' living and working environments to make everything and everyone more interrelated.

Besides, the opportunity to walk a few blocks to get some dinner or a new dress or gift for a friend from a nearby shophouse versus getting in your car and driving twenty minutes (in what would have been a ten minute walk or five minute bike ride) only to pay a $5.00 parking fee is not only refreshing, but also healthier for you and the environment. By promoting a more anti-automobile sentiment, the shophouse not only serves as a live-work space that can improve people's way of life, the shophouse can also provide a lifestyle that is more eco-conscious at preserving fossil fuel. Live-workers should have the option to utilize public transportation and walking as the primary mode of transportion (like in most Asian countries) as opposed to an automobile.

6.1.1b - Know Thy Neighbor >

The opportunity to socialize with your neighbors and neighborhood by actually walking the pavement is much more invigorating than by sitting behind 3000 pounds of steel not recognizing any of the people through your windshield. Jacobs (Jacobs, 56) notes that “the trust of a city street is formed over time from many, many little public sidewalk contacts”. The shophouse is a wonderful building typology that encourages people to see, smell, hear, taste, and absorb life in the neighborhood through first-hand experience (fig. 55). The design of the shophouse and how it relates to the city block enables spontaneous conversations and get-togethers to occur on a regular basis. The dialogue a shophouse has with the city block to form a neighborhood where people actually know one another is an invaluable tool that can mesh a community together (fig. 56).

FIG. 55 Food stalls attract local residents and tourists during dinner hours
<http://www.flickr.com/photos/my_soul_insurance2004/2612113922/>

FIG. 56 Residents preparing for Mazu (Goddess of the Sea) birthday festival
<http://www.flickr.com/photos/lcy/2458794639/>

The tendency of people to not take the time to know or trust one another is more susceptible in an urban environment where people tend to have their guards up. As a result, residents do not know their neighbors or customers very well and the feeling of not knowing creates distance and loneliness. Developing a healthy camaraderie between shophouse owners and customers can instill lasting friendships where people are on a first name basis with one another. There is something inherently appealing about walking down a street and seeing a familiar face to strike up a conversation (fig. 57). Regardless if the exchange is meaningless small talk, the connection that is formed can render a place to feel like a tight-knit community rather than a city of strangers.

FIG. 57 Fish porridge hawker (sidewalk vendor) in Muar (Malaysia)
<http://www.flickr.com/photos/lcy/2414901755/>

Getting active and familiar with the community that one lives in is reciprocal for both the resident and the town. Human interaction with “a certain degree of contact is useful or enjoyable” for people as noted by Jacobs. Building trust among the community by establishing social dialogue is essential (Jacobs, 56). Stopping at the bar for a drink; getting advice from a hairdresser; giving advice to the coffee shop barista; and exchanging

points of view with your accountant are just some of the routines residents can include in their daily life. The types of businesses a shophouse can accommodate toward encouraging and sustaining human interaction are the exact types of establishments that promote a lively dialogue between residents. Jacobs further notes that “the sum of such casual, public contact at a local level” allow people to identify with one another while subconsciously gaining public respect and trust (Jacobs, 56). The intimacy associated with knowing one’s neighbors instills an enhanced sense of security because people are less likely to harm or take advantage of someone they call a friend.

6.1.1c - Human-Scale >

Walking down a street surrounded by remarkably tall high-rises and extremely wide buildings can overwhelm people to make for an uncomfortable and intimidating setting. Being dwarfed by buildings and not being able to see your surroundings can be unsettling especially if that is the day-to-day environment one constantly experiences. Being able to actually see beyond the adjacent buildings to your left and right is refreshing. Building scale is a vital concern toward making the pedestrian feel comfortable. The feeling of being engulfed in a concrete canyon where the sky is not visible due to the soaring buildings can be disheartening. People will feel too cramped and claustrophobic if there is no relief from the enormity of one's surroundings.

According to the website article, http://www.walkablestreets.com/ walkingred.htm, written by city planner and author Dom Nozzi, "Human-scaled streets create the overwhelmingly pleasant feeling of being within an "outdoor room."" Nozzi's statement is precise in terms of an appropriately scaled streetscape representing the outdoors. A pedestrian should feel comfortable and secure while out on the street as if they are in a room. The shophouse is an undeniably legitimate building type that helps confirm Nozzi's thought. The live-work space is primarily less than forty-five feet tall and it envelops the streetscape to promote pedestrianism. The relationship of the shophouse to city block composition underscores just how influential an appropriately scaled building can have on impacting a streetscape to be more humane (fig. 58 & 59).

FIG. 58 Chinatown (Singapore)
<http://www.flickr.com/photos/wantet/531114359/>

FIG. 59 Girl standing in shophouse entryway
<http://www.flickr.com/photos/pat_cahalan/408522430/>

FIG. 60 Financial District (New York City)
<http://www.flickr.com/photos/cel/12240787/>

FIG. 61 Smith Street, Chinatown (Singapore)
<http://www.flickr.com/photos/my_soul_insurance2004/2611260883/>

Besides building height, building width is an additional component that is fundamental toward achieving a properly scaled neighborhood that encourages pedestrians to use and enjoy the street. Pedestrians will lose interest from a monotonous streetscape that lacks diverse scenery when buildings footprints are too wide and take up a substantial portion of a city block (fig. 60). What makes the shophouse so great is that the live-work structure can provide an immense array of diverse storefronts since the building widths are so narrow. The shophouse not only creates a visual feast for the pedestrian to see, but also a chance to explore each unique shophouse (fig. 61). Promoting a vibrant streetlife that can offer a variety of merchandise or services to your liking as opposed to a large building where only the lobby is actually accessible can be a bore.

A conservative calculation to compare just how many more shophouses can fit on a city block relative to Main Street buildings is quite astounding. As mentioned above, the Honolulu archetype may be slightly larger than the SE Asian shophouse model but probably not as large as the typical Main Street building (25 feet to 50' feet). A comparison into the quantity of difference between building widths isn't that substantial for a city block that is five-hundred feet long to house twenty Main Street buildings (with twenty-five foot individual widths) or twenty-five shophouses (with twenty foot individual widths).

However, to gain a clearer perspective regarding how much fluctuation occurs for the same scenario of a five-hundred foot long city block, but with larger sized Main Street buildings (fifty foot individual widths) compared to the narrower sized shophouse (fifteen foot individual widths); the total amount of Main Street buildings would equal ten while the total amount of shophouses would be thirty-three (fig. 62).

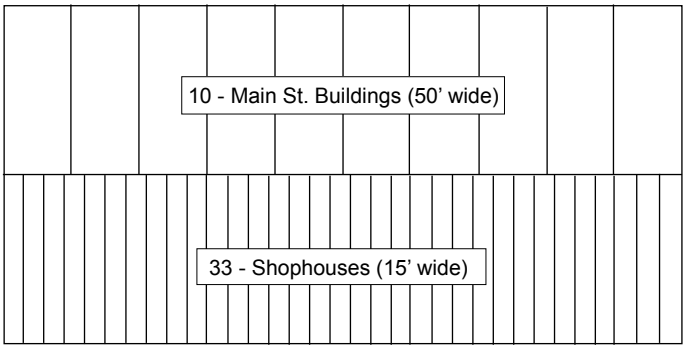


FIG. 62 Comparison of 10 - 50' wide Main Street buildings and 33 - 15' wide shophouses on a 500' long city block
<Tsutomi>

Another scenario would be a large high-rise building like the Hawaiiiki Tower in Kakaako, Honolulu. The Hawaiiki Tower has a base width of approximatelty four-hundred plus feet which will take up 80% of a five hundred foot long city block. When compared to a tower, a row of shophouses could offer twenty to thirty different shops to keep the pedestrian continuously interested and comfortably scaled; whereas, the tower would only be able to house a fraction of the various entities that exist.

The narrower shophouse can intensify the city block with a more enhanced array of sights and sounds that better manipulate the streetscape experience. The more appropriately scaled shophouse can also improve people's way of life by deceiving the pedestrian into making longer distances appear shorter causing people to walk farther than they otherwise would have. City blocks with wide building footprints make time go by slower and distances feel longer when compared to a streetscape with numerous shops. The streets that provide distractions to catch your attention make time and distance feel less relevant.

A great example is the Ala Moana Shopping Center and the roughly 1,200 foot long mall level distance. If you walk the same distance inside the mall compared to outside the mall, one would get the feeling that the inside distance is shorter than the outside distance due to all the sights and sounds taking place within the shopping center as opposed to the traffic on Ala Moana Boulevard outside the mall. A great way to visualize the activity of Ala Moana Shopping Center's mall level could be to consider each store being a shophouse because the storefront scale is similarly scaled to a row of shophouses for pedestrians or in the case of Ala Moana – shoppers.

6.1.2 - Increase Denser Communities and Decrease Urban Sprawl >

FIG. 63 Aerial view of narrow width (less than 20 feet wide) shophouses in Chinatown (Singapore)
<http://www.flickr.com/photos/lynnintokyo/2808084963>

As previously mentioned, one of the major advantages exhibited by the shophouse is that a staggering amount of these live-work structures can fit on a city block (fig. 63). Typical Main Street buildings are either twenty-five feet or fifty feet wide on average (http://www.stoughtonlandmarks.com/html/ building_width.html) while a shophouse width regularly falls between thirteen to twenty feet (Yeang, 134). The narrow width of the shophouse enables a city block to house numerous live-work structures to increase density and decrease sprawl.

The width of the shophouse is no longer limited by inadequate structural members. Today's construction methods offer limitless possibilities in building design and construction. The Honolulu shophouse model will have slightly larger building dimensions given the difference in lifestyles between the people of SE Asia and Honolulu. Although, even with the advanced modern construction techniques now utilized, the Honolulu model will closely resemble the scale of the SE Asian shophouse.

6.1.2a - Urban Living >

There is a certain vitality afforded by a city block or blocks of shophouses that can trigger a social and cultural liveliness of living where you work and working where you play. The shophouse is a valid building type that can accommodate various individuals (owners, occupants, customers) interested in neighborhoods that offer living, working, and playing spaces. The intimate relationship a shophouse has with the street and how these buildings are fairly low in height and narrow in width allow an abundance of storefronts the opportunity to cram a single city block. The large quantity of buildings per block lets pedestrians feel stimulated and curious, yet not overwhelmed.

The small building footprint of the shophouse is a characteristic that is a large reason as to why the shophouse is a versatile building form. The shophouse has the capability to fit into a variety of locations most other buildings can't fit in. In addition, since the shophouse is comprised of both living and working spaces, the shophouse allows people to set up business and residence in some truly unique locations. As previously mentioned in the Walkability section above (6.1.1a), a great location for shophouses are often where two different type of zoning uses interchange such as between residential and commercial/industrial or between downtown commercial and industrial (fig. 64).

FIG. 64 Hierarchical zoning with lower density Chinatown in the foreground, medium density zone midground, and CBD at rear
<http://www.flickr.com/photos/lynnintokyo/2808082537>

Property throughout every urban core is extremely valuable as land is precious. The shophouse has the ability to be built without wasting much space. Shophouses are built with common party walls so each shophouse does not have any open space between each unit. The common party wall will be discussed in greater detail later in the Building to Street section below. The way a shophouse efficiently utilizes space enables the live-work structure to be more proficient at not wasting valuable property.

Being able to live where the action is right outside your doorstep is highly desirable to many individuals. Living where you work, and working where you play are common lifestyles urban dwellers enjoy which is why more and more people are moving back to city cores and urban hot-spots. I will go into more depth regarding live-work-play in following section below. As for the vitality of urban living, there is an underlying sense of “electricity” in the air in terms of things to do and see. There is an amplified feeling of excitement with the vast amount of people coming and going compared to living and working in a non-urban environment (fig. 65 & 66). Urban living may not be for everyone, but there is definitely a sizeable demographic interested in living an urban lifestyle (fig. 67).

FIG. 65 Suburbia outside of Seattle (Issaquah, WA)
<http://www.flickr.com/photos/niffgurd/246133319/>

FIG. 66 Urban neighborhood at Ann Siang Hill in Chinatown (Singapore)
<http://www.flickr.com/photos/camboy/2811204926>

FIG. 67 Sitting in the five-foot way enjoying urban life
<http://www.flickr.com/photos/12668806@N04/2499098281/>

6.1.2b - Live-Work-Play >

FIG. 68 Rush hour in Chinatown (Singapore)
<http://www.flickr.com/photos/camboy/2336999440//>

The validity of the shophouse to provide an assortment of spaces that can stimulate business diversity is clearly evident throughout SE Asia. Oftentimes, wherever shophouses are present, a lively and vibrant streetscape also exists (fig. 68). The architecture, interior design, and urban design of a shophouse can really contribute toward the advancement of live-work-play environments throughout neighborhoods and cities around the U.S. and Honolulu.

There are two primary demographics interested in the live-work lifestyle: First are the “baby boomers” and “empty nesters” which have birthdates between the years 1946-64 (fig. 69). These mid-forty to early sixty year olds are generating a surge in demand for live-work-play cities and neighborhoods. The return to live-work-play cities couldn’t come at a better time due in large part to the increasing amount of “baby boomers” and “empty nesters”, which by the year 2030 will number roughly seventy-seven

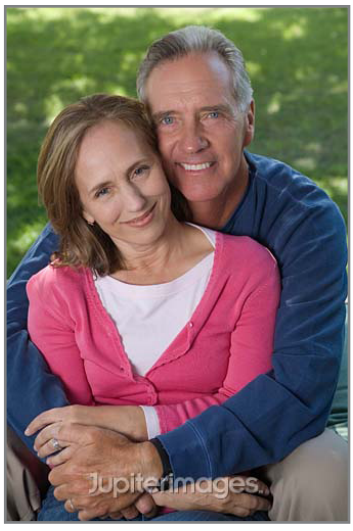


FIG. 69 Baby Boomer couple
<http://www.jupiterimages.com>

million people, of which were born between the years 1946-64 (https://www.uli.org/AM/Template.cfm?section=Spring9&template=/MembersOnly.cfm&ContentID=97827).

Boomers and nesters are moving back into the neighborhoods where they grew up and want to be able to walk to work and go out at night (https://www.uli.org/AM/Template.cfm?section=April11 &template=/ MembersOnly .cfm&ContentID=42448). These individuals want to live where the action lies in the heart of the city where good shopping, cinema, museums, and a variety of other cultural and lifestyle activities exist all within a few city blocks. These hardworking and nearly retired individuals have long placed their personal interests on the back burner for fifteen to thirty years having to work for someone else. These elder, accomplished individuals have accumulated a substantial amount of wealth and are not ready to completely retire or surrender their busy lifestyles to make way for the monotonous daily routines of retired life.

FIG. 70 Baby Boomer enjoying second career
<http://www.jupiterimages.com>

Instead, these boomers and empty nesters have become more interested in owning and running their own businesses (fig. 70). Many of these boomers and nesters are pursuing their second careers in fields they have long been passionate about but could never apply at their former jobs. Whether it is the running of a café, boutique, or fishing supply shop, the shophouse can be the perfect archetype that caters to this increasing demographic as they get a hold of their new lease on life.

The relatively small building size, efficient architectural framework, flexible interior composition, and ability to stimulate an urban environment provides the shophouse with the propensity to be a wonderful living and working space for the boomer and nester to relocate their lives to an urban environment. The shophouse can allow these people to live, work, and play where the action is as the shophouse can be situated in a variety of urban locations. The live-work unit is really a logical extension of the live-work-play atmosphere (http://www.uli.org/AM/Template.cfm?section=July_August1&template=/MembersOnly.cfm&ContentID=100059).

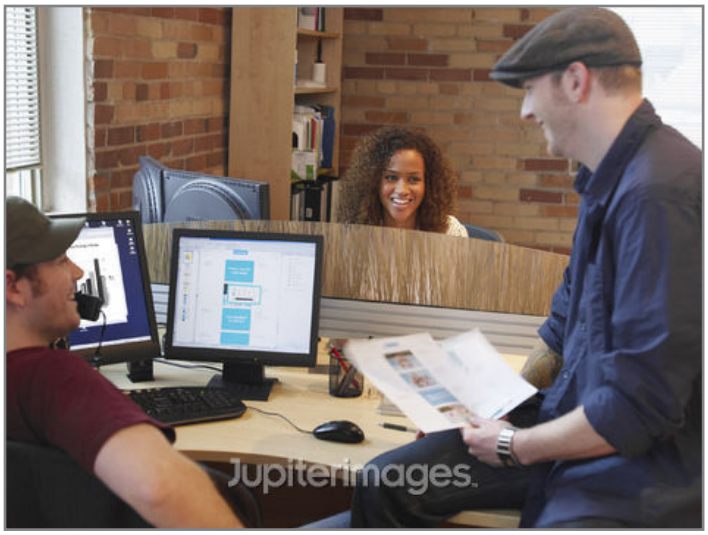


FIG. 71 Young professionals in a small technology firm
<http://www.jupiterimages.com>

The second demographic is the young professional who may or may not be married; recent college graduate in their mid-twenties to late-thirties (fig. 71). The young professional age bracket is also an increasing target demographic for shophouse occupants as technology maintains a steady growth pattern. The young artsy and technology savvy crowd is also interested in living, working, and playing in the active urban core. These energetic younger individuals crave the open around the clock atmosphere as a lifestyle choice that provides more freedom. The relatively small building size, efficient architec-

tural framework, flexible interior composition, and ability to stimulate an urban environment is achievable with the shophouse. The ideal candidates for the live-work lifestyle tend to be people interested in living a non-conformist lifestyle where working hours may go beyond the typical nine to five shift.

The internet has spurned many opportunities for individuals to live a convergent lifestyle where living, working, and playing become interrelated and can occur at any given time throughout the day or night. Young professionals who can run a business with a computer and an internet connection (http://www.uli.org/AM/Template.cfm?section=July_August1&template=/Members Only.cfm&ContentID=100059) need the flexibility of a live-work space as exemplified in the shophouse. Time and location can start to become less relevant as technology allows people to be in two or more places at once which is why having a place like a shophouse is extremely advantageous for the lifestyle many young professionals enjoy leading. The open floor plans that define the shophouse as an extremely foreseeable building typology for increasing denser communities while decreasing urban sprawl partially resembles an industrial space where just about anything and everything within reason goes on (fig. 72).

FIG. 72 Open and highly flexible shophouse interior floorplan
<http://www.flickr.com/photos/englishmajor/2638540939>

The “Creative Class” is another large demographic comprised of nearly forty million Americans (one-third of America’s workforce). The term “Creative Class” was developed by Richard Florida, a professor, scientist, and author who is a world renowned public intellectual on “economic competitiveness, demographic trends, and cultural and technological innovation” (http://creativeclass.com/richard_florida/). Florida describes the “Creative Class” as anyone who creates for a living in fields that range from “engineering to theater, biotech to education, architecture to small business” (http://creativeclass.com/richard_florida/books/the_rise_of_the _creative_ class/).

FIG. 73 Artist working in studio space
<http://www.flickr.com/photos/englishmajor/2638540939>

FIG. 74 Member of the live-work lifestyle
<http://www.jupiterimages.com>

Florida notes that this segment of the workforce already has and will continue to increase its impact on the economy, the future of how the workplace is organized, what companies will prosper or go bankrupt, and which cities will thrive or wither (http://creativeclass.com/richard _florida/books/the _rise_of_the_creative_class/). As the “Creative Class” increases, the popularity of live-work spaces will mimic the rise of people who create because a vast majority of individuals who engage in the live-work lifestyle are members of the “Creative Class ” (fig. 73 & 74). The characteristics of the shophouse allow the live-work structure to be a highly viable building typology that can assist the many “Creative Class” members to take up residence, work, and play in the urban core. Therefore, the market for live-work spaces such as the shophouse will exponentially grow in the years to come due to the influx of creative types throughout many cities.

6.1.2c - Smart Growth >

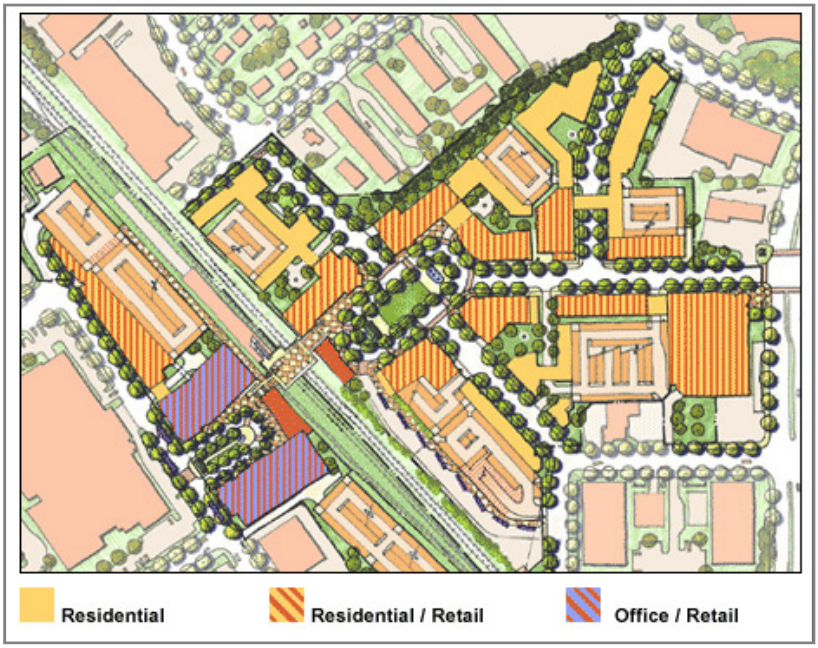


FIG. 75 Twinbrook Station Development (26-acre) that is an environmentally sensitive, economically viable, community-oriented, and sustainable district (Maryland) <http://www.twinbrookstation.com/page.cfm?name=SmartGrowth>

Smart Growth is an urban planning theory based on containing growth to the city center to prevent urban sprawl (fig. 75). Smart Growth is similar to the New Urbanism urban design movement where its followers advocate a number of topics such as TOD, TND, compact walkable neighborhoods, mixed land uses, preserving open space, creating a range of housing options, and developing a strong sense of place.

Regarding the topic of urban sprawl, the shophouse is a remarkable building typology that can increase denser living while decreasing urban sprawl. The shophouse possesses numerous characteristics that promote smart growth values. First, the narrow building width forces the shophouse to be highly efficient with its use of space. The slender buildings have the ability to cram a city block with a high percentage of block coverage. There are barely, if any gaps in the building facades that compose the streetscape.

Secondly, the mixture of living and working space in a single structure allows the shophouse to be functionally flexible. Live-work spaces need to adapt to its user's needs and the shophouse can really accommodate a variety of requirements. Thirdly, the live-work spaces help to maintain a concentration of immediate actual residents and nearby residents to provide a steady amount of residential foot traffic. The constant flow of people adds a distinct character and livelihood to the street. Fourth, the scale of the shophouse being two to three stories tall and narrow in width ensures a walkable streetscape that is appropriately scaled for human comfort. The fairly low building heights provide the right amount of enclosure to help create a comforting sense of place (fig. 76).

FIG. 76 Club Street (Singapore) providing a comfortable setting that is suitably scaled for the pedestrian
<http://www.flickr.com/photos/benlyons/141970057/in/set-72157594584097199/>

FIG. 77 Luxury single family homes in a golf community (Florida). Wasteful, inefficient use of land and space
<http://www.flickr.com/photos/florida-golf-community/391477531/>

The modest scale and narrow facades of the shophouse are also incredibly sensible and economical. Nowadays, people are so accustomed to having too many luxuries in life. Many of the wasteful extravagances are rarely used on a regular basis and signify a symbol of status more than anything else (fig. 77). Status symbols like a swimming pool, extravagant yard, fancy kitchen, and enormous floor plans are but a few of the wasteful indulgences people succumb to just for the sake of being able to show it off.

What the shophouse does is bring a sense of utility back to living, working, and playing in a more responsible fashion. The shophouse can cater to a diverse array of lifestyles through the typical two to three floors of elastic space. The live-work structure is highly adaptable to the owner's needs compared to the typical single family home which is much more rigid and uncompromising. The single family home (and yard) is often composed of wasted space that lacks the ability to effectively integrate the living with the working in order to create a fully functional live-work space.

6.1.3 - Enhance Sense of Place >

FIG. 78 Row of shophouses basking in the afternoon sunlight shrouded with greenery providing a strong sense of place (Singapore)
<http://www.flickr.com/photos/lionrawr/83269737/>

The difficulty of identifying what specifically makes a place resonate with people to leave an impression is complex and difficult to pinpoint. Places that exude a distinct identity upon its residents and visitors are often memorable neighborhoods because these spaces help to spark a feeling of speciality. The connections formed on various levels of experiencing the urban fabric, streetscape, landscape, architecture, people, sights, sounds, and smells of a location can all contribute toward triggering a deeper, more personal bond with a place. The capacity of the shophouse to create a dynamically active intermediary space between the building front and the street compels the pedestrian to be susceptible to the live-work structure and the various identities the building can take on. The types of diverse businesses embraced by the shophouse as a flexible live-work space can render additional influence that helps a city block or neighborhood to better establish an enhanced sense of place.

6.1.3a - Mold Identity >

The urban and architectural scale along with the pliable composition that comprises the shophouse to accommodate the needs of various small business operations can enhance the image of a street therefore molding the identity of a neighborhood. By allowing an assortment of businesses to reside next to one another creates a dynamic environment (fig. 79). Giving a city block or neighborhood an appealing identity is extremely important for the future prosperity of a community as the appropriate mixture can help bring about a constant amount of foot traffic.

FIG. 79 Row of vivid shophouses along Liang Seah Street, near Bugis Junction (Singapore)
<http://www.flickr.com/photos/purpleman/2835735464/>

The extreme flexibility of the shophouse affords building owners the opportunity to accommodate a variety of uses that can play to a suitable audience. The opportunity to capitalize on the synergy given off by the proximity of integrating living and working spaces is important toward not only drawing local residents, but also neighboring community members and out-of-towners. Discovering who your true customers are and where they come from can help shophouse owners to refine their marketing and advertising focus to better shape their identity.

The exceptional genetic makeup that composes a shophouse can accentuate whatever identity the building owner anticipates toward becoming a reality. The urban and architectural personalities of a shophouse shine through when a building is so closely related to its owner. The flexible arrangement of the shophouse to integrate living and working space under a single roof allows businesses and their owners the elasticity needed to better reflect their customer.

The building has an intensified role of representing the owner's private (live) and public (work) persona. The sense of pride in business owners tend to grow when they not only work at a specific site, but also live at that same exact location. It is almost second nature for a live-worker to have his or her living and working lifestyles interrelated and on display for the customer to witness and experience (fig. 80 & 81). After all, the consumer is partially buying into the shophouse owner's way of life. Communities and neighborhoods bolster their sense of place when shophouses become more distinct and unique to serve as an extension of its owner.

FIG. 80 Shophouse housing a ceramics retailer
<http://www.flickr.com/photos/ericfirley/516285723/>

FIG. 81 Shophouse housing an art gallery
<http://www.flickr.com/photos/ericfirley/517366455/>

Small businesses are really what help distinguish the identity of a neighborhood since the majority of these businesses are run by local people who are extremely passionate and in touch with their community. The advantage of being a locally owned and operated business is that the shophouse can wholeheartedly reflect the building owner's ideals and lifestyle. The intimate building volume allows the user to really identify and mold their space on an innovative yet practical level; whereas, an ordinary commercial space is less personal and never really allows the user to fully reveal oneself.

6.1.3b - Small Business Advantage >

Small businesses often define a neighborhood with greater clarity and distinction compared to chain stores and restaurants that do poor imitations of reflecting a neighborhood's sense of place. A Subway sandwich shop and Starbucks coffee shop in Seattle mirror the Subway shops and Starbucks cafes in Honolulu (fig. 82 & 83). The repetitive nature reflected among the chain stores that are separated by thousands of miles is vaguely appealing and a poor representation of local culture.

FIG. 82 Starbucks in Richmond Beach (near Seattle, WA)
<http://www.starbucksseverywhere.net/Seattle.htm>

FIG. 83 Starbucks in Honolulu
<http://www.flickr.com/photos/mistermicronesia/268423231/>

Supporting local companies that better embody the immediate community is advantageous. Small businesses such as Ba-Le Sandwiches & Bakery and Honolulu Coffee Company convey a more accurate portrayal about the local community (fig. 84). Businesses like these two Honolulu-based companies and other local small entities are ideal candidates for the shophouse lifestyle as the live-work structure is highly flexible and capable of solving a number of issues facing small start-up companies. Shophouse owners and the types of busi-

FIG. 84 Locally owned Honolulu Coffee Company
<http://www.honolulucoffee.com/index.cfm?section=store>

nesses they run speak of the local community much more convincingly than a corporate owned Subway or Starbucks. The capacity of the architecture and emotional feelings exuded by the shophouse can thoroughly shape a community's sense of place through the cultivation of small businesses.

Although no McDonalds will be run out of a shophouse, the fast food giant is taking the initiative of being a leader in realizing the replicating of restaurants in completely different regions of the world is not good for business. The "Golden Arches" have begun to re-vamp its restaurants' image in respect to its customers. Across the world, and especially throughout the U.S., McDonalds is trying to create restaurants that are more "responsive to the community" as noted by Mark Brownstein who co-owns twenty-three McDonalds in Southern California (http://www.telegraph.co.uk/news/worldnews/1579073/Feng-Shui-MacDonald's-offers-calm-and-fries.html).

One of his McDonalds restaurants in Hacienda Heights (east of Los Angeles) sports earthy tones, water features, and other Feng Shui elements to appeal to the largely Asian population in that area (http://www.telegraph.co.uk/news/worldnews/1579073/Feng-Shui-MacDonald's-offers-calm-and-fries.html) (fig. 85 & 86). The once ubiquitous red and yellow plastic seating configurations that dotted every McDonalds is becoming harder to find.

FIG. 85 Feng Shui McDonalds in Hacienda Heights
<http://www.telegraph.co.uk/news/worldnews/1579073/Feng-Shui-MacDonald%E2%80%99s-offers-calm-and-fries.html>

FIG. 86 Feng Shui McDonalds with warm, earthy tones and origami crane art on walls
<http://www.nytimes.com/slideshow/2008/03/02/us/0302-FENGSHUI_index.html>

According to a study done by Civic Economics, spending $100 at an independent neighborhood business creates $68 in additional local economic activity, whereas spending $100 at a chain produces only $43 worth of local gain (http://www.newrules.org/retail/news_slug.php?slugid=269). Some of the main factors are labor, procurement of goods, and keeping and spending the profits in local hands (http://www.newrules.org/retail/news_slug.php?slugid=269). However, the national chains can pay $60-$100 a square foot a year in rent while most independent businesses can only afford $7-$20 a square foot per year (http://www.cooltownstudios.com/mt/archives/000929.html). That is a major problem which is why city governments should provide low-interest loans, tax credits and tax breaks to aid the development of small businesses (http://www.cooltownstudios.com/mt/archives/000930.html).

With America serving as the premier capitalist economy of free-markets, cultivating the ideal assortment of businesses to preside in a given area is a major objective that isn't always attainable. Having the appropriate diversity of businesses requires extensive effort with no guarantee of success. Yet, when trying to establish a neighborhood with a strong sense of place, small businesses that play off one another to help each other can increasingly exemplify the true character of a neighborhood.

These independently owned restaurants, retailers, and offices are predominantly run and managed by local residents. However, many of these entrepreneurs do not live near their places of work and that is a shame for both the business owner and the community. With the shophouse being a live-work space, small business owners have the opportunity to live where they work to better establish a distinct sense of place. Consequently, the shophouse owners will be much more prideful in nurturing their neighborhood.

An added benefit to participating in the live-work lifestyle is business owners are able to reduce their expenses and time spent commuting by living so close to where they work. From an economic standpoint, the owner of a shophouse can also minimize their overhead by having to only pay for a single mortgage as their business and residence fall under the same roof (http://www.johnstondesigngroup.com/press/p-getcozy.pdf). By owning a shophouse, the entrepreneurial individual will be able to continuously enrich their business environment by enhancing and maintaining the live-work structure's capacity to establish a sense of place.

6.1.3c - Human Sensory >

What makes certain places (buildings and streetscapes) and the feelings they give off easy to recollect in comparison to places that are less memorable? It could be and often is a combination of factors – many of which aren't truly defined but definitely recognizable when experienced. It is difficult to pinpoint what exactly determines a place from being vividly or faintly remembered. However, one of the critical requirements for a place to be discernible is the establishment of a strong bond or many minor connections that trigger a person's state of mind. There will always be certain cities, neighborhoods, and streets that are remarkably compelling and etched into an individual's memory. A strong relationship or an enhanced correlation between a person and a place via the five human senses (sight, hearing, smell, taste, and touch) will heighten one's experience to leave a lasting impression (whether positive or negative) (fig. 87 & 88).

FIG. 87 Five-foot way where people eat side-by-side with passerby
<http://www.flickr.com/photos/ericfirley/517345447/>

FIG. 88 Trengganu Street overlooking Pagoda Street where numerous eateries are to be found (Chinatown, Singapore)
<http://www.flickr.com/photos/adforce1/300924352/>

The shophouse has the ability to captivate the human senses on many levels due to the live-work space behaving as a building of a pedestrian-scale. The height and width of the shophouse along with the intermediary space along the building's front all contribute to provide a comfortable and memorable row of spaces. The shophouse enables businesses to execute a number of tasks to captivate the passerby all within a pedestrian oriented environment: sight – bleeding of interior outward onto the intermediary space to force people to see the merchandise; hearing – interaction between owners and customers dialoguing with one another; smell – engulf people with wonderful aromas from within; taste – furnish intermediary space with sidewalk seating to wine and dine; touch – exhibit racks, tables, and point-of-purchase displays to showcase merchandise.

Another crucial element of how the shophouse captivates the senses to create memorable spaces is by actually catering to the pedestrian. In Europe and Asia, the pedestrian holds tremendous influence by commanding greater significance compared to here in America. In the U.S., it is rare to see piazzas, paseos, plazas, and arcades ubiquitously splayed out as they are throughout Europe and Asia.

Many streets in the U. S. give priority to the automobile leaving the pedestrian last on the list. However, city blocks throughout SE Asia that are filled with shophouses tend to emphasize the pedestrian as the object of most importance. These vibrant streets impact people's sense of place as there is no barrier separating the person from the urban environment. Walking down a street while experiencing all the sights, sounds, smells, tasting, and touching can't be fully appreciated through a windshield of an automobile. Everything at foot-level is exponentially intensified which captivates the senses to establish an enhanced sense of place.

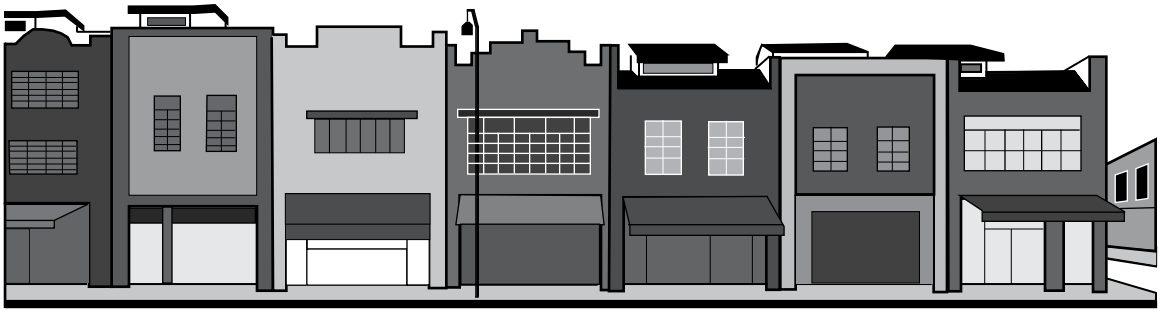


FIG. 89
<Tsutomi>

6.2 – Relationship of Building to Street (fig. 89) >

The dialogue between the shophouse facade and the street speaks volumes as to how a building communicates with the general public – most importantly the pedestrian. The shophouse contains a multitude of defining characteristics that allow the live-work structure to complement a streetscape. However, certain aspects of the shophouse façade carry more clout than other façade elements. The shophouse features listed below are in order of visual prominence with the first trait being the most noteworthy and the last trait being the least significant aspect of the façade.

6.2.1 - Zero Building Setback >

Zero building setback is a fundamental characteristic of the shophouse. The absence of a setback allows a building to be built up to its property line. Utilizing the entire front area to the boundary line is fundamental and can be traced back centuries ago to when automobiles were the minority and pedestrians were the majority. Zero setback is a key aspect into identifying and creating a city block of shophouses where the display of commercial goods and services are right up to the sidewalk, as close as possible, for all to witness (fig. 90).

FIG. 90 Shophouse in Little India taking over the five-foot way entire sidewalk forcing pedestrians to view what is on offer.
<http://www.flickr.com/photos/benlyons/386526018>

FIG. 91 Street with zero setback and no pedestrian interruptions
<http://greatergreaterwashington.org/files/200802/nnzoning-parking.pdf#page=7>

FIG. 92 Street with setbacks and driveway and parking interruptions
<http://greatergreaterwashington.org/files/200802/nn-zoningparking.pdf#page=7>

The live-work building adheres to the zero setback allowance as a method to promote pedestrian foot traffic over vehicular traffic. A street aligned with uniform zero building setback encourages walking compared to a street of buildings with various setbacks and interruptions that jut in and out (fig. 91 & 92). Walkability should always be highlighted in neighborhoods that contain shophouses for two reasons:

- Walkability makes it easier for a customer or pedestrian to reach their destination
- Walkability encourages passerby to actually stop and browse at the shophouses.

FIG. 93 Rear service alley behind shophouses helps separate vehicles from pedestrians
<http://www.flickr.com/photos/genkigenki/169734701/>

Giving a pedestrian priority over the automobile can help prevent dangerous accidents from occuring. The probability of avoiding obstacles like driveways where cars enter and exit is much easier in shophouse neighborhoods as the live-work structure is serviced from the rear (fig. 93). The lack of building setbacks and driveways along the front of the shophouse also shortens the distance between the pedestrian and their destination. The direct adjacency of a shophouse to their neighboring shophouse is a highly efficient use of urban space. Zero building setback makes traveling by vehicle less convenient than traveling by foot which is a major incentive toward the promotion of pedestrianism.

Yeang notes that the “modern high-rise developments during the last few decades in Kuala Lumpur have broken the connectivity of pedestrian movement from its intimate scale and street-level relationship” (Yeang, 37). Enclosed building forms that require large setbacks, parking entrances and service roads to interfere with the pedestrian thoroughfare have heightened the demise of the five foot way (Miao, 35). Consequently, the importance of placing pedestrian foot traffic as a priority has consequently suffered. The integration of the five foot way with a zero building setback provides a multi-functional space for various lifestyles and subcultures to coexist as a community (Yeang, 37). The

zero setback allowance and constant flow of foot traffic can generate dynamic opportunities for street life to come alive because of the interactions resulting from the close proximity of the buildings to people, people to street, and people to people (fig. 94).

The absence of parking lots along the streetfront and the adherence to the zero setback allowance is always a concern that needs addressing. If the majority of parking isn't in the front, where do people park? There are many creative solutions that can address the issues concerning parking, but an underlying principle of the zero setback allowance is to enliven the streetscape by promoting movement away from the use of the automobile. The ability of a shophouse to frame the street as a cohesive façade where buildings are adjoined for entire city blocks is a vital element toward creating successful streetscapes. The unification of shophouse with neighboring shophouse is what makes these urban live-work spaces so intriguing (fig. 95).

FIG. 94 Streetlife in Little India (Singapore)
<http://www.flickr.com/photos/lcy/96043783/in/set-618226/>

FIG. 95 Trendy boutiques along Erskine Road (Singapore)
<http://www.flickr.com/photos/benlyons/141972544>

6.2.2 - Five-Foot Way >

The integration between the building front and the street itself is the lifeblood of the shophouse for a number of reasons. The shophouse front, especially the five-foot way is where genuine streetlife can occur in its various forms. The characteristics of the front façade not only serve as an invitation for passerby to enter, but also as an indicator of what type of business is within. The five-foot way also serves as a pedestrian thorough-fare where constant foot traffic among customers, shopowners, friends, and neighbors converse with one another. The five-foot way encourages the sidewalk environment to become animated with streetlife (fig. 96 & 97).

FIG. 96 Woman standing in the five-foot way
<http://www.flickr.com/photos/kongping/1350884466/>

FIG. 97 Chinese herb store utilizing the five-foot way to display merchandise (Singapore)
<http://www.flickr.com/photos/fengski/2048496531/>

Yeang states that the verandahway (“five-foot way”) is “an urban image-giving device” (Yeang, Preface). Human scale and the horizontal and vertical uniformity of a continuous urban walkway is easily recognizable in helping to promote a clear sense of place (http://www.apsa2005.net/ FullPapers/PdfFormat/Full%20Paper%20(O-Z)/Wan%20Hashimah.pdf, 5) for SE Asian countries.

FIG. 98 Man sewing garment in the five-foot way (Little India, Singapore)
<http://www.flickr.com/photos/zeechunkymunkee/2445260475/>

Yeang also notes that the “five-foot way” which was later increased to a width of 7.5 feet (Yeang, 36) is a “transitional space that has multi-functional uses, e.g. as a public pedestrian way; as a transient space for hawkers, cobblers and fortune-tellers; as a night-time sleeping space for watchmen and low-income workers, etc” (Yeang, preface). The five-foot way theoretically serves as an outward extension of the commercial space. The expansion of commercial activity enables an assortment of products, various merchandise, and dinner seating arrangements to spill out onto this neutral outdoor area where basically anything goes (fig. 98).

FIG. 99 Partially landscaped five-foot way provides shelter from direct sunlight
<http://www.flickr.com/photos/toomanythoughts/347466637/>

Besides the various uses of the five-foot way, the main purpose of this circulation space is its ability to be, as Yeang notes a “climatically responsive architectural device” that provides shelter from the harsh rays of the sun and the sudden downpours in this sub-tropical climate (Yeang, 36) (fig. 99). The five-foot way is a unique space in that the volume is “both a semi-public and private zone which serves several functions” besides being a buffer between the more intimate shophouse and the noisy bustling street (Yeang, 36). What is great about the five-foot way is that the space functions as a room that is partially outdoor yet indoor so it is flexible like the actual shophouse. The five-foot way is an extremely vital part of both the shophouse and the urban landscape of Malaysia and Singapore.

6.2.3 - Upper Floor(s) >

The third component of the shophouse façade is the upper floor(s) which extends over the “five-foot way” (http://www.ura.gov.sg/conservation/1_overview.htm, 7). The projection of the second and/or third levels over the pedestrian arcade below offers the interspace shelter from the natural elements. Shophouses are typically two to three stories tall and as Kohl notes, “a clear division between the lower and upper floors, and a consistent floor and cornice height visually establishes the row of houses as a block or entity” (Kohl, 182) (fig. 100 & 101).

FIG. 100 Upper floor sheltering the five-foot way below
<http://www.flickr.com/photos/my_soul_insurance2004/2612077956/>

FIG. 101 Upper floors aligned to form a cohesive cornice height
<http://www.flickr.com/photos/my_soul_insurance2004/2611255245/>

The distinction between the lower and upper floor(s) is marked by the major breastsummer (a broad horizontal beam) that is widely evident in every shophouse. The main breastsummer is most apparent where the ground floor and the second floor merge together. Per city block, the height alignment of each building’s major breastsummer yields a more unified streetscape. The orderly facades present an appealing and effective interspace – with consistent ceiling heights and building façades – to smoothly relate the building to the street.

The breastsummer for the upper floors also requires alignment but not as extensive as the first to second floor connection which is the most critical. Certain alignment

regulations and height limitations are often implemented for the breastsummer and building heights to ensure uniformity. Otherwise, shophouse owners may stray too far from the conventional shophouse design resulting in jumbled facades and a disorderly streetscape.

FIG. 102 Identical facades architecturally, but decoratively different to offer diversity <http://www.flickr.com/photos/my_soul_insurance2004/2611266593/>

Although the facades of the shophouse should be relatively uniform; the streetfront façade, especially the upper floors, should exhibit variety and uniqueness as these walls both define the streetscape and visually communicate with pedestrians (building to street relationship). Even with the shophouses being aligned with one another, diversity exists among the façades to provide character and relief as the upper floors are always eye-catching. Architectural details and embellishments like paint colors, moldings, arches, windows, shutters, and various other decorative elements help to prevent cookie-cutter architecture while maintaining an underlying charm (fig. 102).

Early models of the shophouse found the entire upper floor as one single large opening with no real area division (Kohl, 179). The initial shophouse facades of the upper floor(s) was based on simplicity and economics. However, as time went on, the exterior façade of the upper floor(s) later transformed to consist of two or three equally sized window bays often forming a repetitive pattern of solid and void. The upper floors began to take on a more articulate aesthetic. The upper floor space nearest to the street primarily contains residential activities such as the bedroom or living area. The upper floors rarely if ever include any commercial activities other than storage or the occasional office space.

As construction techniques progressed, the popular two and three story shophouses were soon expanded to four and five story shophouses. By 1925, the growing trend of heightening the shophouse was permitted by the advancement of structural steel beams and reinforced concrete (Kohl, 184). Consequently, by this time, the role of the shophouse as functional architecture began diminishing to make way for multi-storied office blocks and shophouse-office blocks as tall as ten stories (Kohl, 184) – ultimately marking the end of the shophouse era.

It is ironic that during the twilight years of the shophouse began the customary trait of sculpting or imprinting the building completion date on the upper façade. It was almost as if the shophouses were trying to preserve their death by symbolizing their birth date. This form of date stamping done typically in stucco or granite was a European influence (Yeang, 135-AOM) that became the in vogue thing to do (fig. 103).

FIG. 103 Keong Saik Street (Singapore)
<http://www.flickr.com/photos/lcy/305422294/>

6.2.4 - Columns >

The fourth component are the columns which front the shophouse to help support the upper floors while also defining the five-foot colonnades (http://www.ura.gov.sg/conservation/ 1_overview.htm, 8). The columns are of various shapes, forms and sizes depending on the time period as to when the shophouse was constructed. The building size, height, and load of the shophouse also factor in to the dimensions of the columns. The columns sometime extend out to the commercial space to form arches in the interspace. The arches or other shapes formed by the column connecting to the ground floor wall help to add intrigue when walking in the interspace (fig. 104 & 105).

FIG. 104 Columns partially enclosing the five-foot way
<http://www.flickr.com/photos/lcy/488267241/>

FIG. 105 Columns are divided down the middle and painted different colors
<http://www.flickr.com/photos/babykailan/2537050595/>

FIG. 106 Columnless five-foot way lacks a sense of enclosure
<http://www.flickr.com/photos/km1980/2603756074/>

FIG. 107 Columns provide a feeling of security and separation from the street
<http://www.flickr.com/photos/tanthomas/2606779492/>

Yeang indicates that the columns provide a sense of enclosure (Yeang, 36). The columns help to demarcate an invisible boundary that denotes the semi-public five-foot way (pedestrian oriented) from the public street (for vehicles and cyclists) (fig. 106 & 107). The columns signify a zone of transition where leisure foot traffic is tolerated and often desired so pedestrians can window shop and interact with the ground floor businesses.

Opposite the columns is the expressway of street space for people on the move. Included in this zone are people briskly walking, vehicle parking, and motorist and cyclist zooming past. Pedestrians who seek out this rapid route want to bypass the onlookers and slow pace accustomed to the interspace. Citizens are often forced to walk at an uncomfortable pace when buildings do not implement five-foot ways that integrate columns. People that may want to window shop get bumped because they are moving too slow while people that need to get somewhere swiftly are slowed due to curious onlookers. The columns indicate a buffer zone where people can clearly recognize their options to either move quickly or slowly.

Live-work buildings that do not integrate columns present an insufficient space for the pedestrian. An absence of columns will make the shophouse feel deficient with a re-

duced sense of grounding. The feeling and appearance of a column penetrating the pavement symbolizes stability and support which helps establish the interspace as a semi-protected area for pedestrians. The columns help to affirm the shophouse as the definitive live-work structure that promotes pedestrian life while sustaining an active streetscape (fig. 108). The sense of security and enclosure given off from a colonnade reassures the pedestrian they are in a place of refuge. While on the contrary, a streetscape with only awnings and sans columns creates a false sense of comfort incomparable to a colonnaded interspace.

FIG. 108 Columns provide shelter to dine alfresco while supplementing an active streetscape
<http://www.flickr.com/photos/lcy/2463596193/>

Besides structural support and the division between semi-public versus public space, many of the columns serve as opportunities to post signboards that indicate the businesses housed within. The placement of the signage is perfectly positioned to lure pedestrians walking in the interspace because the signs are clearly noticeable. The columns also serve as the foundation to base merchandise displays around. Some of the common display arrangements utilized are tables filled with vegetables and produce, mannequins flaunting new fashion wear, and shelves containing random knick-knacks. The column functions as a vertical member that provides the backbone for numerous visual displays.

6.2.5 - Common Party Wall >

FIG. 109 Common party wall dividing taller shophouse into two spaces while also separating taller two story shophouse from shorter two story shophouse
<http://www.flickr.com/photos/my_soul_insurance2004/2614249691/>

FIG. 110 Party wall extending approximately one foot above roof
<Vlatseas 91>

The fifth component that makes the shophouse unique compared to other low-rise buildings is the manner as to how each shophouse and its neighbors are adjoined. Each live-work structure is attached to one another by way of a common party wall (fig. 109). Each shophouse is abutted to the adjacent shophouse as there is no gap between each individual structure, hence the term common party wall. Every shophouse has its own party walls which demarcate where one's property starts and ends. The neighboring shophouse owner can easily identify the conditions as to where the next building will be attached. The common party wall results in an expanse of consistently arranged storefronts at street level and residential spaces up above.

The party walls are the principal load-bearing walls which are constructed of a masonry material such as brick (http://www.ura.gov.sg/conservation/1_overview.htm, 6). Party walls were thickened at their bottoms to transfer the dead-load to the base of the foundation in order to ensure structural stability (http://www.ura.gov.sg/conservation/1_ overview.htm, 6). The party walls normally protrude approximately one foot above the roof of the shophouse to provide a clear separation between each individual lot (http://www.ura.gov. sg/conservation/1_ overview.htm, 6) (fig. 110). The party wall or gable wall, as noted

by Kohl, act as fire walls to prevent the spread of flame (Kohl, 182) from jumping to adjacent buildings and engulfing entire city blocks. Since the roof framing is also constructed of wood, the protrusion of the party walls above the roof is even more vital to stop building fires from jumping to neighboring units.

FIG. 111 Party wall extending approximately one foot above roof and downward to form the columns that semi-enclose the five-foot way
<http://www.flickr.com/photos/my_soul_insurance2004/2615077326/>

The common party walls also form the shophouse columns which help to provide a sense of enclosure for the five foot way (fig. 111). The two columns that extend downward from the upper floor party walls contribute to dispersing the building load into the slab of the five-foot way. Although the columns are structural, they are often decorated or embellished to distinguish one businesses from another.

The interior party walls were usually left unpierced and unadorned (http://www. ura.gov. sg/conservation/1_overview.htm, 6) to reveal its brick building material. However, as time evolved, it became routine to dress up the vertical surfaces by covering them with a plaster or stucco finish. The capacity to dampen sound down to a tolerable or even silent level is favorable because neighbors are often only inches away.

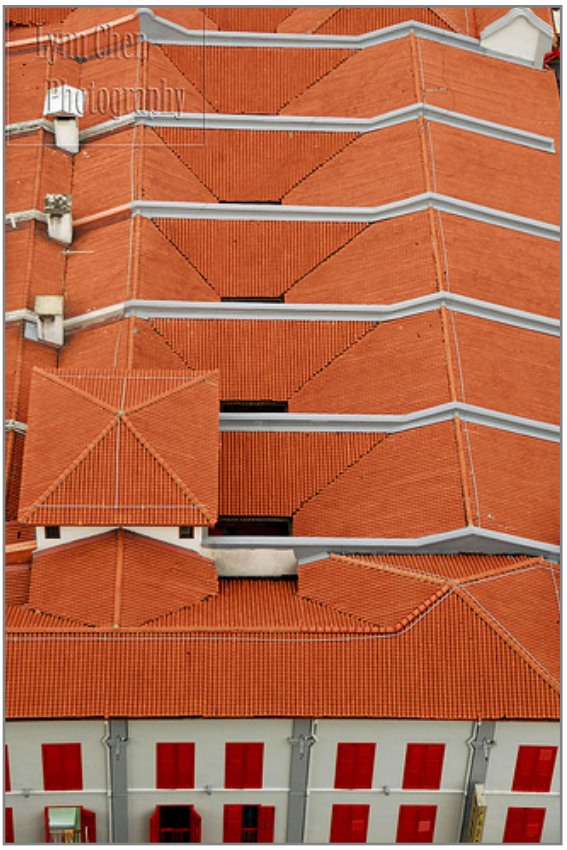


FIG. 112 Protruding above each rooftop, the party wall allows a tight configuration of shophouses to cram an entire city block <http://www.flickr.com/photos/lynnintokyo/2808945788/>

The wall thicknesses vary due to the fluctuation of loads apparent in the vast magnitude of shophouse sizes and shapes. Obviously the walls must be structurally adequate, yet it is preferable to construct the walls to be as thin as possible because the shophouse is already narrow in the first place with widths averaging thirteen to twenty feet, so increasing usable space is a fundamental concern. Every inch counts when you are dealing with buildings that utilize each square foot of space as usable property (fig. 112).

6.2.6 - Timber Windows >

The timber window is the sixth component that helps give the shophouse its distinct appearance. The majority of shophouses have the street level façade composed of two windows and a door in the center (fig. 113). The upper floors tend to consist of three bays with a set of windows representing each bay (fig. 113). The upper story windows are evenly spaced, full height, side-hung, and double-shuttered while usually having transom windows with fanlights above (http://www.ura.gov.sg/conservation/1_overview.htm, 7) similar to a Palladian window. The main window types are French windows or casement windows with timber shutters, timber louvers, panels or a combination of these styles (http://www.ura.gov.sg/ conservation/1_overview.htm, 8) (fig. 114).

FIG. 113 Traditional shophouse with two windows and a door centered along the ground level and a three bay upper level facade with timber casement shutters
<http://www.flickr.com/photos/benlyons/134152930

FIG. 114 Upper level with combination of French timber doors in center, timber casement shutters on sides, and fanlights on top
<http://www.flickr.com/photos/ez2axs/826932739/>

The casement windows are only half the height of the French windows with openings starting at the balcony rail height (http://www.ura.gov.sg/conservation/1_overview.htm, 7). The timber panel or louvered shutters are hinged on the window frames (http://www.ura.gov.sg/conservation/1_overview.htm, 8). The various window types utilized are highly practical due to the tropical climate where even the lightet breeze is appreciated. The windows take advantage of allowing maximum natural ventilation to permeate as the window opening when open is almost completely unobstructed. Some windows on the

upper floors are actually louvered doors that span from floor to ceiling (Kohl, 180). These louvered doors allow greater air circulation due to their larger openings.

FIG. 115 Upper level facade with French timber doors that also have casement shutters
<http://www.flickr.com/photos/1980nic/2748016787/>

FIG. 116 View looking out through a second story timber casement door
<http://www.flickr.com/photos/genkigenki/152594393/>

The French or casement windows have either timber post and rail or cast iron balustrades as part of the original French window designs (http://www.ura.gov.sg/conservation/1_ overview.htm, 7) (fig. 115). The balustrades serve as a security device to prevent residents from falling out of the window as some of these windows start at floor level and extend above eye-level. Some windows also have two individual sets of shutters: one, to cover the balustrade portion; two, to cover the window portion above the balustrade. The shutters are also highly practical when inclement weather strikes. The shutters act as an effective barrier that protects the interior from harsh rain and wind prevalent during monsoon season in SE Asia.

The casement windows on the ground level swing inward unlike the upper story windows which swing outward (http://www.ura.gov.sg/conservation/1_overview.htm, 7). The logic behind the inward swing is because of safety and security (http://www.ura.gov.sg/conservation/1_overview.htm, 7). The inward swinging windows prevent passerby from getting hit when windows are being opened or left in the open position. The inward swing also makes the installation for security devices more practical due to the internal motion.

6.2.7 - Roof >

The seventh component is what caps off the top of the shophouse. The pitched roofs primarily have ridges running parallel to the streetfront façade (fig. 117). The roofs are supported by timber purlins which rest on the load-bearing party walls. The roof is finished with either overlapping V-profile or flat natural color unglazed clay tiles laid on timber battens and bonded with mortar (http://www.ura.gov.sg/conservation/1_overview. htm, 6). The rooftops are waterproofed with bituminous asphalt, galvanized iron flashing and copings (http://www.ura.gov.sg/conservation/1_overview.htm, 6). The tile roof is also finished with timber fascias and galvanized iron gutters and downpipes which are often painted to match the building's finish (http://www.ura.gov.sg/conservation/1_ overview.htm, 8) to disguise the drainage system.

FIG. 117 Two and three level shophouses with roof ridges running parallel to street
<http://www.flickr.com/photos/lynnintokyo/2844690301/>

FIG. 118 Deceiving shophouse height where gabled roof slop upward and away from street
<http://www.flickr.com/photos/benlyons/379287362>

Although the shophouse is quite low and comfortably scaled, the live-work structure is deceiving (fig. 118). The shophouse appears shorter than it actually is because of the gabled roof ridge running parallel to the street (Kohl, 179). The receding nature of the slope allows the roof to rise and angle away from a street level vantage point. The

sloping roof gives off a false impression that the shophouse is exactly the height of the building's front façade which it is not. In actuality, the shophouse is much taller than its front facade due to the gabled roof angling away from the street and rising up toward the ridge.

FIG. 119 Two taller shophouses have false front facades while two small shophouses in center have traditional facade and roof type
<http://www.flickr.com/photos/benlyons/386528425>

In addition to the gabled roof of the traditional shophouse, the parapet façade or false front shophouse is another roof style. The parapet or false front shophouse is prevalent in many of the later generation shophouses (fig. 119). Ismail and Shamsuddin state that "by the 1900's, European, Chinese, and Malay motifs were intricately executed on the facades, creating the illusion of a 'false front' to the simple structure" (http://www. apsa2005.net/FullPapers/PdfFormat /Full%20 Paper%20(O-Z)/Wan%20Hashimah.pdf, 6). These parapet and false front shophouses were highly compatible in adapting to the various roof types. These more modernized shophouses had flat or minimally sloped roofs as the parapet could mask a variety of roof types behind the false front façade. The flat roofs made it easy to incorporate roof decks up top in order to gain additional usable space.

FIG. 120 Row of shophouses with various facade and roof types. Some have parapet roofs (regular, stepped, and curved) and others have traditional gabled roofs
<http://www.flickr.com/photos/mariowibowo/2796697616>

Besides the more traditional gable roof shophouse, the parapet or false front shophouse can also be deceiving in height. The facades of the parapet shophouse employ pediments of various sorts (pointed, curved, broken) to add extra altitude (fig. 120). The parapets and false fronts can also conceal additional rooms or building levels set behind the front façade hidden away from the street. Setting the uppermost floor back from the facade can allow a building to appear as a two stories from the sidewalk when in actuality it can be a three story shophouse. The two major roof types are ideal as each style can be employed in a variety of applications that provide visual interest.

6.2.8 - Door >

FIG. 121 Shophouse entryway
<http://www.flickr.com/photos/7595261@N02/2756266836>

The eighth component is the entryway of a shophouse (fig. 121). The doors often vary between shophouses as some structures have a shopfront while other shophouses have a residential front. As the evolution of the shophouse continues to develop, a fair amount of live-work buildings have matured and transitioned into becoming live-live structures so many shophouses are no longer multi-use buildings. Running a business in the ground level has become obsolete for certain shophouses in favor of a larger living space. These shophouses that were once a place to live and work have been transformed into buildings strictly for residential use only. Nonetheless, even with the surge of shophouses becoming single-use, multi-use shophouses continue to thrive as small business owners remain persistent toward achieving their entrepreneurial dream.

The entry doors of the shopfront are often telltale signs as to whether or not the shop-house is a live-work or live-live structure. The live-work shophouses tend to have larger openings which allow easier entry and exit for customers as opposed to the smaller doorways associated with residential use. The larger openings also allow passerby and customers to easily see what is inside. In some cases, the shopfronts have the entire shop width open onto the five foot way (Kohl, 179) (fig. 122).

FIG. 122 Live-work storefront with large glass windows and doors
<http://www.flickr.com/photos/benlyons/141972727>

FIG. 123 Live-live residential entryway with central door, pintu pagar (mini doors), and windows on each side
<http://www.flickr.com/photos/benlyons/134153171>

The residential shopfronts, on the other hand, have traditional features such as de-mountable timber shutter boards, and timber or metal sliding and folding doors (http://www.ura.gov.sg/conservation/1_overview.htm, 8) . The residential fronts also have double-leafed timber doors with timber casement windows on both sides, or two double-leafed doors with a timber casement window ((http://www.ura. gov.sg/conservation/1_overview.htm, 8) (fig. 123). The residential entryways are often smaller than the business entryways. There are exceptions to these rules as some live-work shopfronts have entries that resemble live-live shopfronts and vice-versa. But, for the most part, the differences between a live-work entry and a live-live entry hold true.

The main door usually has a pair of half-doors known as “pintu pagar” (http://www.ura.gov.sg/conservation/1_overview.htm, 8) which resemble the swinging doors in saloons of the “Old West” movies of America’s past (fig. 124). The residential doors although double-leafed are typically more private with a set of doors and a “pintu pagar” as opposed to the shopfront doors that are more open and accessible.

FIG. 124 Pintu pagar (mini doors) attached to the main door jamb
<http://www.flickr.com/photos/my_soul_insurance2004/2611241949/>

FIG. 125 Two separate doorways; oneleading into ground level space and one leading upstairs
< http://www.flickr.com/photos/ez2axs/1334303342/>

Some shophouses are equipped with a separate entryway up to the second floor so one can bypass the work space at ground level in order to proceed upward. The access doors are located on either the left or right sides of the façade to signify their lack of importance as the main entry into the commercial space is often positioned in the center (fig. 125). There are advantages and disadvantages for each model depending on the interior design and spatial breakdown of the shophouse. The shophouses that do incorporate a secondary entryway into the façade often have doors that are single or double-leafed, glazed or timber-paneled, louvered or of rail and stile design (http://www.ura. gov.sg/conservation/1_overview.htm, 8). If not totally necessary, the implementation of these secondary doors that allow separate access to the upper floors should be ignored as they often add visual clutter.

6.2.9 - Rear Court >

The rear court is the final component of the building to street relationship. The rear court is an open space at the back of the shop-house which is utilized as a service entry mainly for residents (http://www.ura.gov.sg/conservation/1_overview.htm, 7) . This rear space is enclosed by the shophouse's rear façade and a rear boundary wall which contains an entry/exit door (http://www.ura.gov.sg/conservation/1_overview.htm, 8). The rear court is open to the sky and somewhat serves as a yard. The rear court allows light and air to filter in to the rear of the shophouse while providing a private outdoor space (fig. 126, 127 & 128).

FIG. 126 View of rear court from stairway
<http://www.flickr.com/photos/10062987@N03/1400662556/ >

FIG. 127 Rear court looking toward shop-house front
<http://www.flickr.com/photos/10062987@N03/1399759863>

The rear court can be formed in several configurations as the space can be on either the left or rights side of the property. The rear court can also modify its look with a more open or covered yard. This rear space can take on a number of variations as there are fewer limitations that apply compared to the front façade.

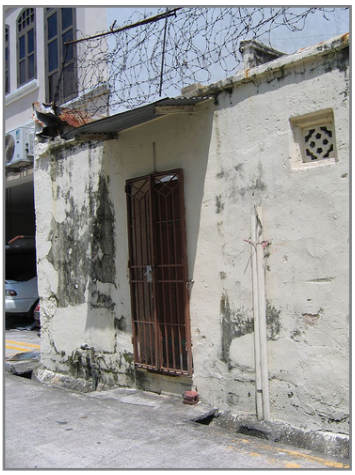


FIG. 128 Rear boundary wall enclosing court space
<http://www.flickr.com/photos/10062987@N03/1399773695/>

The rear court is where the actual shophouse residents get to play in privacy or socialize with their neighbors out of sight and out of mind from their customers. These rear spaces are highly important to the building owner and user regarding serviceability and shophouse living. The space is adjacent to the kitchen so as Singaporean Yang Yeo notes in the Dwell Magazine article titled Straight and Narrow, “open back doors and neighbors and relatives wandering in and out of the kitchen and cooking and eating and coming and going whether you liked it or not” (Dwell, June 2006) is a vital ingredient of living and experiencing the shophouse live-work lifestyle (fig. 129).

FIG. 129 City block of shophouses that have open rear courts
<http://www.skyscrapercity.com/showthread.php?t=461353>

The rear court is often hidden from the street by a boundary wall to allow privacy even though the general public typically adheres to walking on the major streets in the front of the shophouse. This rear space is often along service alleys that are mainly frequented by residents or people that personally know the shophouse occupants. The rear court serves as a private space that is to be shared with the residents of the shophouses and their friends. The relationship the rear court has with the street is especially vital toward providing a place to socialize as these people rarely leave their businesses. Therefore, the rear court offers live-workers the opportunity to converse and exchange dialogue with their neighbors and friends mere footsteps away from their property.

FIG. 130
<Tsutomi>

6.3 – Relationship of Public to Private (fig. 130) >

The five-foot way along the sidewalk at the front of the shophouse is where the public meets the private. This junction marks the essence of where streetlife and all that is entailed (people, automobiles, landscape, hardscape, rain, wind, sun, etc.) routinely occurs on a daily basis. The right of way (ROW) can take on a variety of forms depending on the occupants of the shophouse. The shophouses that border the sidewalk create a division between the public realm and the private structure. The shophouse serves as an enclosure with two purposes: first - the shophouse accommodates a private live-work environment; second - the shophouse frames the public street to allow pedestrians to feel as if they are in an outdoor room. The semi-enclosed sidewalk space can either be excellent or terrible depending on whether priority is given to the automobile or the pedestrian.

The neighborhoods in Singapore that contain shophouses establish ROW which produce exceptional sidewalk spaces. The five-foot way and sidewalks in Singapore where shophouses are present tend to be full of color and character with pedestrians coming and going about their daily business. The SE Asian shophouse utilizes the five-foot way to manipulate the ROW into creating wonderful streetscapes where the public and the

private can merge. There are three primary points of interest that help to better define how the shophouse relates the public to the private: access; liability; and maintenance.

The shophouse, as noted above, does a wonderful job of enhancing the city block and neighborhood while effectively communicating with the street. The sensitive nature of the shophouse to integrate the spatial arrangement between the public and the private in a manner that is both practical and highly efficient is unparalleled. Throughout the five-foot way, the live-work building is always able to respond to the urban environment at street level.

Although quite successful in SE Asia, the approach taken by the shophouse to relate the five-foot way to the public right of way (ROW) is quite unusual and atypical elsewhere around the world. In most countries, the sidewalk is public domain that is owned by the city or county. In Singapore, the interspace is privately owned but publicly used which seems to be a success there, but if implemented in other countries could produce mixed results. There is an abundance of disparities present when comparing the privately owned five-foot way to a publicly owned sidewalk. Yet, a privately owned sidewalk space like the five-foot way may make more sense than a publicly owned sidewalk or vice versa in certain areas of a city or neighborhood depending on the streetscape.

Consequently, the five-foot way has its advantages and disadvantages when measured against a publicly owned sidewalk. This section will not delve too far into whether the interspace is better off situated on public or private property (that comparison will be further discussed in the Design Proposal). What this section will discuss is how the shophouse interspace being privately owned but publicly used can affect accessibility, liability, and maintenance.

6.3.1 - Accessibility >

Major differences are immediately noticeable if you compare a sidewalk in Singapore with sidewalks elsewhere around the world. The obvious distinction is how the five-foot way in Singapore is extremely easy to access as the pedestrianway is open yet continuously shaded and sheltered. In most other countries, the sidewalk is exposed to the sky and rarely if any shelter is provided for the pedestrian (fig. 131). The wonderful pedestrian network created by the five-foot way allows convenient access when traveling from shophouse to shophouse (fig. 132). It would be easy to mistake this network of pedestrian only spaces, frequented by both tourists and locals, as publicly owned property – but it is not. The five-foot way is privately owned but publicly utilized.

FIG. 131 Exposed and unsheltered sidewalk along Kapahulu Avenue (Honolulu)
<Tsutomi>

FIG. 132 Five-foot way providing a sheltered accessway for pedestrians to walk
<http://www.skyscrapercity.com/showthread.php?t=461353>

Identifying where the private stops and the public begins is difficult with the shophouse which is why the five-foot way is such a remarkable space. Although the five-foot way in Singapore is privately owned by individual shophouses, businesses are allowed to bleed their commercial interior floor space out onto the five-foot way to gain additional area all while the space appears as if it belongs to the public (fig. 133). The extension of floor space onto the intermediary zone creates a distinctly unique streetscape of diverse offerings from each business.

FIG. 133 Shophouse businesses extending their merchandise displays out onto the five-foot way
<http://www.skyscrapercity.com/showthread.php?t=461353&page=6>

FIG. 134 Alfresco dining inside five-foot way and along sidewalk
<http://www.skyscrapercity.com/showthread.php?t=461353&page=6>

The private ownership of the five-foot way suggests a convenient and practical solution to create a lively streetscape. Both the shophouse owner and the customer are able to gain substantial benefits. The owner can thrive by being able to provide alfresco dining to appeal to a wider range of customers who may want to eat outside while soaking up the scenery (fig. 134). The alfresco dining can also entice random passerby to want to stop for a meal even though they aren't hungry. Seeing someone eat a delicious meal can transform the non-hungry into the hungry.

Providing merchandise displays to extend out onto the five-foot way also forces the passerby to view what is for sale (fig. 135). The customer doesn't have the option to ignore what a business has for sale if the merchandise is forced into one's path of travel. A shop can increase its customer base by creating and targeting their displays toward the impulse buyer who may then want to actually browse inside the shop. In addition, the outdoor displays can also let people make a quick and casual purchase without having to actually step foot into a store. If a customer only needs a small trinket they can purchase the item quite easily if they are in a rush.

FIG. 135 Kitchen retailer expanding merchandise out onto five-foot way
<http://www.skyscrapercity.com/showthread.php?t=461353&page=6>

FIG. 136 Rain covered street and dry five-foot way allows pedestrians to walk entire neighborhoods without getting drenched
<Tsutomi>

Every aspect of the privately owned five-foot way pertains to help a business prosper. Whether rain or shine, the five-foot way provides a well-functioning pedestrian walkway where foot traffic is almost a guarantee depending on location. In essence, the covered pedestrianway allows people to walk an entire neighborhood in the rain from home to work and to a restaurant for lunch and back without the need for an umbrella (fig. 136). The only area a pedestrian may get wet is at the street intersection where no roof is present. The five-foot way will always be able to accommodate pedestrians as it is always sheltered yet accessible.

By the five-foot way being privately owned but publicly used allows businesses to be more flexible on a variety of fronts: ability to adapt to the changing needs of the customer; force customer to view merchandise or service being sold; and ease of creating sidewalk sales or festivals on a daily basis to entice the customer (fig. 137). The five-foot way places priority on the pedestrian as opposed to the automobile which is clearly evident in the excellent people spaces created along these shophouse fronts.

FIG. 137 Shopkeeper organizing his five-foot way display for passerby to browse
<http://www.flickr.com/photos/lcy/2099996715/>

The addition of numerous restrictions could be developed if the five-foot way were to be publicly owned. The thought of the five-foot way becoming public property could disrupt the success the pedestrianway has garnered throughout the decades. If the five-foot way were no longer private property, the limitations of what can and can't happen such as preventing displays and alfresco dining on the sidewalk could deflate the life out of the pedestrianway. All one has to do is take a look at the many publicly owned sidewalks around the world including Honolulu. The evidence can be clearly seen via the lifeless sidewalks where people only walk to and from their destinations without stopping to talk, shop, or embrace the colorful sidewalk scene.

The private ownership of the five-foot way model may be too far fetched and overtly stringent for a place like Honolulu to fully implement. However, finding a common ground between the Singapore model (privately owned) and the western Main Street model (publicly owned) is a compromise worth pursuing. A certain amount of intrusion onto the public sidewalk can be beneficial for everyone – neighborhood, shophouse owner, customer, and pedestrian - as an increase in streetlife is always a welcome sight. Building features such as awnings, bay windows, and upper-level floors that shelter the sidewalk are but a few of the possibilities that can be erected to benefit retailers and pedestrians.

The amount of area and the actual location of the five-foot way boundary designating the publicly owned from the privately owned is more important than the visibility of the border in and of itself. A clear division is not necessary. An adequate amount of five-foot way space is more critical toward increasing the odds of a well-designed public sidewalk which is why the pedestrianway shouldn't be too wide or too narrow, but easily accessible. The seven foot six inch wide way is a fairly sufficient amount of space. Streetlife can take on an assortment of appearances in order to prosper as long as there is a reasonable amount of space allotted for use by the businesses and pedestrians to commingle.

6.3.2 - Liability >

In most countries, the ROW is entirely public property. With the ROW being public, building owners are rarely liable for accidents that occur outside their place of business. The shophouse, on the other hand, has the five-foot way which is privately owned but publicly used. The contrast in ownership of the sidewalk space causes greater concern for the shophouse owner. The issue of liability is much more likely for a shophouse owner in Singapore if someone were to fall or get hurt on the sidewalk compared to a building owner that has a publicly owned sidewalk in front of their business.

The liability inherently posed by the private interspace is one of the few weaknesses exhibited by the SE Asian shophouse (fig. 138). Although the private ownership of the interspace allows a business to totally manipulate the area fronting a shophouse, owners must be cautious about litigious people. Building owners must be willing to pay the price of being held liable should an unscrupulous person want to sue the business.

FIG. 138 Shopkeeper organizing his five-foot way display for passerby to browse
<http://www.flickr.com/photos/benlyons/379287105>

When it comes to the issue of liability, there are no real benefits associated with assuming the risk of having a privately owned interspace versus a publicly owned interspace. Therefore, by borrowing the noteworthy traits of both the Singapore model (privately owned) and the western Main Street model (publicly owned) to form a shared model could encourage communities –shophouse owner, pedestrian, and customer – to promote the development of a livelier streetscape without the added risk and liability.

6.3.3 - Maintenance >

In most countries outside Singapore, city or government entities are responsible for the upkeep and maintenance of the publicly owned sidewalk space. In Singapore, the upkeep of the interspace is primarily held by the shophouse owner since they are responsible for the walkway (fig. 139). A well kept interspace can reveal a lot about a business and its owner which it often does. Shophouse owners often take better care of their interspace compared to a city or government offshoot as the walkway is a reflection of the business.

FIG. 139 Female shopkeeper cleaning the five-foot way outside her shophouse
<http://mysarawak.wordpress.com/2007/12/17/electra-house-kuching/>

Most shophouse owners exhibit an atmosphere that is clean and tidy because customers can become weary and hesitant of an unkempt business. Customers would rather frequent a shophouse that takes pride in its storefront and walkway as these elements partially symbolize the integrity of a business. Even with all the people walking, shopping, and eating throughout the interspace, the pedestrianway is rarely if ever littered with trash or unsightly articles.

FIG. 139 Two schoolchildren safely walking through the five-foot way
<http://www.flickr.com/photos/timpassey/2575019701/>

There are additional benefits to keeping a tidy interspace and that is to prevent fewer accidents from occurring. A well maintained shophouse and five-foot way can increase accessibility and decreasing liability. A clean and organized shopfront can minimize the occurrence of people slipping and falling or having objects fall on them. A well maintained interspace allows people to easily move throughout the walkway, which after all is why the shophouse is so successful (fig. 140).

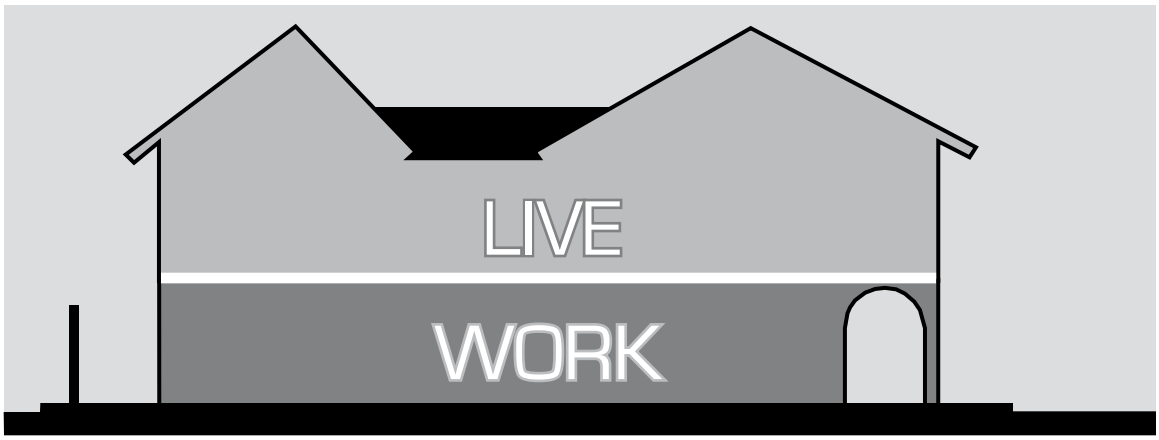


FIG. 141
<Tsutomi>

6.4 – Relationship of Living to Working (fig. 141) >

The capability of the shophouse to integrate living space with working space in such a direct manner while still allowing the two uses to function both cohesively and autonomously is quite ingenious. The intimate relationship that occurs between the living and working areas establishes the SE Asian shophouse as a valid and appropriately scaled multi-use structure. The shophouse is a highly compatible space that isn't too large or too small for an entrepreneurial individual interested in pursuing the live-work lifestyle. How the shophouse balances the conflicting roles of living and working while always sustaining both uses is what makes the shophouse uniquely appealing.

The propensity of the shophouse to cater to a variety of small businesses is fitting because most startup companies do not have an abundance of resources so they require efficient floorplans which the shophouse delivers. Although there are distinct advantages to having a shophouse where your dwelling is directly above your place of work, a number of issues and constraints can be problematic as it takes a certain individual and personality to want to pursue the live-work lifestyle. Having said that, the live-work lifestyle is not for everyone yet building occupants such as an accountant, architect, artist, attorney, designer, hair stylist, restaurateur, and countless other entrepreneurs refer to

the shophouse as their home and office because the live-work structure can accommodate the needs of various individuals.

The core group of occupants consists of three major segments – families with multiple generations living under a single roof; empty nesters; and young married couples – all of whom are attracted to living an urban lifestyle. The demographics are composed of individuals that are driven by hard work and dedication to see their business succeed. The organization of a work space to appear professional and not merely an extension of the owner's living room is quite prevalent and desirable for the majority of shophouse businesses. It is preferable that the live-work space be orderly and efficient regardless of whether the shophouse minimizes or maximizes the amount of interaction between the living and the working areas so customers know they are dealing with a reputable establishment.

This section will delve deeper into the living to working interaction previously noted in the building to city block and neighborhood section above. One of the main priorities for a zero-commuter who lives in a shophouse is flexibility. Without flexibility, a shophouse lacks the fundamental characteristic of accommodating countless uses. The shophouse is designed to function as a highly flexible live-work space that can mold itself into just about anything the zero-commuting owner deems necessary – as long as there is a place to cook, wash up, and sleep. The spatial arrangement within a shophouse should possess a delicate balance of not being too open or too closed. Each shophouse requires various degrees of open and closed spaces that are either separated or integrated together. The living and working spaces are dictated by two conditions: Minimizing Interaction by Emphasizing the Boundary; Maximizing Interaction by Deemphasizing the Boundary.

6.4.1 - Maximizing Interaction by Deemphasizing the Boundary >

The crux of what makes the shophouse such a compelling building model is its flexibility of adapting to the user's needs to live a more integrated lifestyle. The shophouse can fulfill the bulk of requirements a small business owner desires whether the occupant needs a place of living, working, or both living and working. The shophouse tackles widespread duties by prudently balancing whether to emphasize or deemphasize the vertical and horizontal boundaries between living and working spaces. Knowing that there are options to make the border between the two spaces either visible or transparent acknowledges the vast amount of potential arrangements within the interior of a shophouse (fig. 142).

FIG. 142 3-D shophouse section displaying division of interior spaces
<Powell 38>

A typical shophouse interior has a commercial establishment at street level and a residential space above. Beginning with the street level space, the customary format of a shophouse is as follows: the front is work space; the middle is the airwell; and the rear is the kitchen and dining. The second level consists of a family room or office at the front; the airwell in the middle; and the bedrooms toward the rear. However, nothing is permanent within the shophouse as anything and everything can be reversed or flipped upside down depending on the needs and requirements of the shophouse owner.

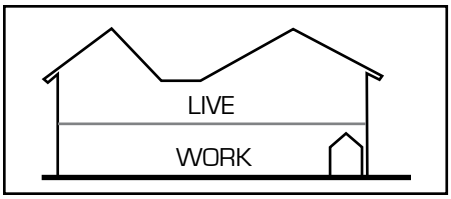


FIG. 143 Option-A
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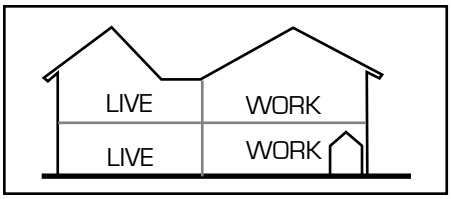

FIG. 144 Option-B
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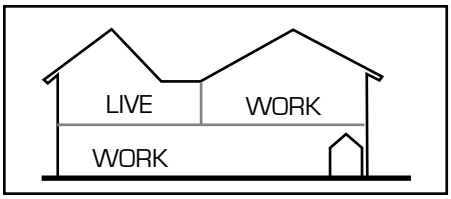


FIG. 145 Option-C
<Tsutomi>

The flexibility of the shophouse allows three major options to take shape if need be. For example, Option-A expands the work space toward the rear past the airwell to take up the entire first floor (fig. 143). This conversion forces the kitchen and dining to move upstairs, possibly displacing the bedrooms in the rear of the second level. Option-B increases the work space by vertically extending the first floor work area upward to create two floors of work space (fig. 144). This option maintains the kitchen and dining at the rear of the first floor, but displaces the living room in the front of the second level. Option C is a variation of the alternatives A and B (fig. 145). The work space is moved toward the rear of the ground floor and upstairs above the existing first floor work space displacing the kitchen, dining, bedrooms, and living room. This dual conversion creates a work area that is considerably substantial at the expense of diminished living quarters. The displacement of the kitchen, dining, bedrooms, and living room is solved with the addition of loft spaces or extra floor levels. The supplementary loft spaces and floor levels can be easily integrated into the tall volumes under the pitched roof.

The diversity of business owners vary from individual to individual. Some occupants favor a shophouse that doesn't place any barriers between the living and working spaces while other owners insist on a division and separation. The individuals who rather minimize the boundaries between their living and working areas often lead lifestyles where a person's work and personal life are fused together. The line that separates where the occupant is either living or working is noticeably blurred. A shophouse that deemphasizes the boundary between the living and the working is an ideal environment for maximizing interaction. There are three main components that can either maximize or minimize the interaction between the living and the working: floor levels; stairways; walls.

6.4.1a - Floor Levels >

The purpose of having multiple floor levels within the shophouse is to increase the usable square footage in the otherwise narrow and elongated building footprint. The conventional method of dividing up space within the live-work structure is to separate the living up top and the working below which is extremely practical for the business aspect of the shophouse. Attracting the customer to enter a business makes a lot more sense when the work space is at the pedestrian level versus a second level space that is difficult to see (fig. 146).

FIG. 146 Easier for pedestrians to view tailor at street level compared to if business was restricted to only the second floor
<http://www.flickr.com/photos/lcy/2620560225/>

Since the logical division of living and working by floors is certainly valid, this section and the following stairway and wall sections will not discuss flipping the structure upside down where living is below and working is up above. Instead, the following 6.4.1-sections will showcase how the shophouse can maximize interaction throughout the live-work structure by deemphasizing boundaries and blurring spaces.

The loft type shophouse (portion of the first floor has a double height ceiling that allows the upper floor to intermix with the first floor) is a wonderful example of blurring living and working space (fig. 147). This type of shophouse amplifies the transparency between the living and working areas so they share the same volume of space. One can simultaneously be in both spaces at once while still being partially separated by floor level. Intermixing the two floors via the loft space allows the business owner the opportunity to do things in privacy upstairs while still being able to keep an eye and ear on the work space below. The combination of the two floors sharing a volume of space allows groups of people to work separately on different levels while still being integrated together.

FIG. 147 Loft type shophouse where first floor has double height ceiling and spaces are intermixed
<http://www.flickr.com/photos/ericfirley/517334250/>

Enabling people to easily communicate with one another by minimizing the boundary between the upper level and the lower level is especially helpful for businesses of a collaborative nature. Building owners of the “Creative Class” or anyone who creates for a living depends on the idea of sharing information. The openness of the loft type shophouse enables occupants the ability to devise better solutions by working together. The shophouse provides occupants the opportunity to take advantage of spaces that encourage dialogue, interaction, and flexibility among its users (fig. 148).

FIG. 148 Kerry Hill Architects office where employees work on both levels and can converse easily
<Tsutomi>

FIG. 149 Atrium and void-like spaces help blend the ground level with the second level while also allowing light and air to circulate
<http://www.flickr.com/photos/ericfirley/517367219/>

Another characteristic of the shophouse facilitating an interconnected living and working environment is the creation of voids and atriums that better relate the floor levels (fig. 149). The vertical volumes of empty space penetrate the above floor level by opening up the ceilings of the first floor. The openings create both feelings of expanse and unrestraint as the barriers separating living space from working space are deemphasized. Natural daylight and ventilation are also able to filter in and improve the interior environment.

There are various inherent advantages associated with maximizing the interaction between the living and working areas of a shophouse through the intertwining of floor levels, but with those advantages come some disadvantages. Many of the very characteristics that make the shophouse so successful at blending the living with the working are also what make the shophouse problematic. For certain types of businesses, issues of noise and privacy arise which can be difficult and challenging for owners to endure. Some of these concerns will be touched upon later in the 6.4.2-section below (Minimize Interaction).

FIG. 150 Interior stairway connecting first and second floors
<http://www.flickr.com/photos/ericfirley/516282675/>

6.4.1b - Stairway >

The primary component that allows living and working spaces to integrate is the interior stairway (fig. 150). Depending on the depth and height of the shophouse, the amount of stairways can range from a single set inside the front portion to three or four as the deeper and taller shophouses also have central and rear stairways. The interior stairway arrangements vary from shophouse to shophouse. Some of the common stairway designs are straight runs, dog-leg, curved quarter, and half-turn designs (http://www.ura.gov.sg/conservation/1_overview. htm, 7). The balusters are usually ornately detailed to reflect early European influences (http://www.ura.gov.sg/ conservation/1_overview. htm, 7). The design and location of a stairway can dramatically emphasize or deemphasize the amount of interaction that occurs between living and working areas.

The location of the “front of the house” stairway is usually in one of two positions. The first location is at the front of the shophouse, directly off to the side of the entryway, flanking one of the party walls (fig. 151). The party wall stairway garners a lot of attention because it is often the first object a customer will see upon entry into a shophouse. The stairway runs parallel to the party wall and is often designed as a straight run which is quite efficient. The stairway not only saves space, but also frees up space throughout the remainder of the shophouse.

FIG. 151 Stairway directly off to the side of the entryway flanking party wall
<http://www.flickr.com/photos/ericfirley/516362969/>

FIG. 152 Stairway adjacent to airwell but perpendicular to the party wall
<http://www.flickr.com/photos/ericfirley/517339800/>

The second location is adjacent to the airwell and centralized toward the rear of the work space (fig. 152). This stairway runs perpendicular to the party wall and often takes up more space. The narrow width of the shophouse often makes it difficult for the airwell stairway to be a straight run as the room isn’t wide enough. The airwell stairway usually has a landing midway that forces a redirection causing the stairway to require a larger footprint.

The positions of the party wall stairway and the airwell stairway can both minimize and maximize interaction between the living and the working. The location of the party wall stairway is near the shophouse front, off to the side and somewhat untethered to the interior space (fig. 153). The airwell stairway is centrally situated and placed further into the shophouse (fig. 154). The two types of stairways offer varying degrees of interaction with the airwell stairway being more adept at maximizing interaction between the first and second floor.

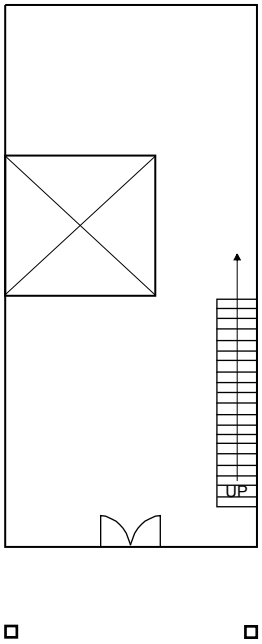


FIG. 153 Party wall stairway
<Tsutomi>

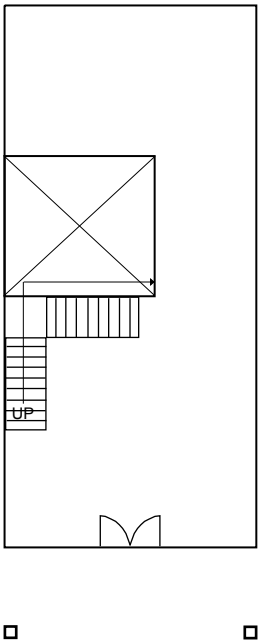


FIG. 154 Airwell stairway
<Tsutomi>

The airwell stairway creates an uninterrupted work space as the stairway is pushed to the rear section of the “front of the house”. The direct proximity of the stairway to the airwell also forces the stairs to be centralized within the depth of the shophouse as the airwell is typically in the middle of the live-work structure. The airwell stairway runs perpendicular to the party wall and often leads to a more deemphasized boundary where the working space can be vertically and horizontally connected to the living space.

This stairway can also be used as an elastic design feature that partially divides yet connects the “front of the house” with the “back of the house” for the ground floor space (fig. 155). As a divider, the stairway can act as a screening mechanism that separates the public work area at the front from the private kitchen and dining area at the rear. As a connector, the stairway can serve as an open air atrium-like space that not only blends the front to the rear, but also the first floor to the second floor. Another benefit of the airwell stairway is that it allows the passage of air and daylight to move freely from one section to another.

FIG. 155 Airwell stairway perpendicular to party wall serving as both a divider and connector
<http://www.flickr.com/photos/turkisdach/28496806/>

The position of the airwell stairway being further inward forces the occupant to really set foot into the space in order to go upstairs; whereas the party wall stairway in the front of the shophouse allows the occupant to not have to set foot in the working space in order to reach the stairs. The centralized location of the airwell stairway provides a living to working relationship that is more interrelated compared to the party wall stairway design. The connection between the two floors is more intensified because the occupants are required to get more involved with the living and working spaces as the location of the stairway doesn’t permit a vertical bypass route.

As would be expected, modernized shophouses have stairways fabricated with far more advanced materials such as steel and glass instead of only timber. These stairways can

take on radical forms that further minimize or maximize the inherent conditions contained throughout a live-work structure. A steel-framed spiral staircase can fit almost anywhere inside a shophouse since it has a minimal footprint. The stairway is no longer limited to its two primary locations: the airwell or the party wall. How the stairway can serve to minimize or maximize the interaction between living and working spaces is a vital concern that must always be addressed. The stairway plays a major part in influencing the efficiency and performance of a shophouse.

6.4.1c - Walls >

The shophouse has several major wall types which include the common party wall, airwell wall, and free standing partition. Each type of wall upholds a sense of separation and enclosure within the live-work structure as walls tend to erect barriers that minimize interaction. The shophouse is comprised of certain walls that execute a better job of minimizing the interaction between living and working. Whereas, other walls excel at doing the contrary – maximizing the interaction between living and working.

FIG. 156 Partially demolished party wall comprised of various materials
<http://www.flickr.com/photos/jiathwee/150694691/>

FIG. 157 Multitude of white plaster finished party walls separating shophouses
<http://www.flickr.com/photos/lcy/2443287440/>

The party wall is fairly one dimensional and straightforward in that its fundamental purpose is to provide structural support and separation between neighboring units (fig. 156 & 157). The party wall supports the roof and upper floors within a shophouse while also providing a barrier between each neighboring live-work structure. The party wall doesn't possess many opportunities to blend or separate living space from working space since the walls are always load bearing and pushed to the perimeter of the property. As a result, it is rare for the party wall to have an impact on the interaction between the living and the working.

On the other hand, the airwell walls and free-standing partitions are much more prone to modifications that can either maximize or minimize interaction. These wall types can be opaque or translucent and take on a variety of shapes and designs via numerous architectural and interior design compositions. The two wall types have greater flexibility to either emphasize or deemphasize a boundary as they are typically non-load bearing and located throughout numerous areas within the shophouse.

FIG. 158 Solid airwell wall forming a separation between front and back of the shophouse
<http://www.flickr.com/photos/ericfirley/516305529/>

FIG. 159 Open airwell exposed to the elements providing minimum separation between front and back of the shophouse
<http://www.flickr.com/photos/ericfirley/516277028/>

The main purpose of the airwell, located roughly halfway into the building depth of the shophouse, is to provide daylight and ventilation for the interior. However, the airwell also serves as a versatile space divider that can isolate the work area from the live area (fig. 158). Depending on its design and materiality, the airwell can either be a visible or transparent boundary. The architectural design and opacity of the airwell walls determines the degree as to how apparent the blurring between the living and the working will be and vice versa. An opaque airwell completely severs the live-work connection by preventing the occupant from seeing the rear or the front of the shophouse when in the opposing area. If the walls of the airwell are transparent, line of sight throughout the shophouse from the front to the rear is unobstructed and interaction can be maximized (fig. 159).

Free standing partitions are great for maximizing and minimizing interaction among living and working spaces. One would figure that a partition would only be useful for emphasizing boundary; however, a partition can indeed be utilized for deemphasizing boundary. Partitions can help building owners who want the best of both worlds where both connectivity and separation is provided (fig. 160 & 161). Erecting a partition that isn't load-bearing allows business owners an opportunity to mold their space into environments that function cohesively. The layout of partitions can influence and shape the interior to be responsive to the needs of both the owner and the customer.

FIG. 160 Interior of the Lim shophouse where doors are used as partitions to separate or blend
<http://web.mit.edu/akpia/www/AKPsite/4.239/singa/image10b.jp>

FIG. 161 Lattice partition dividing yet connecting spaces in the home and gallery of an international art collector on Cairnhill Road (Singapore)
<Powell 30>

Although the shophouse is a wonderful live-work structure, the interior design of a shophouse can sometimes create undesirable conditions where interaction among the living and working spaces is weakened. How a partition can partially divide the living area from the working area to create some boundary can maximize the interactive nature of the shophouse by creating a space that is more organized and less chaotic. A partition can function for the benefit of the owner if it is well designed and strategically located. Partitions can help a business owner attain an improved lifestyle by empowering the individual to select what uses need to be shared and what uses need to be isolated from one another in order for the shophouse to better operate.

The main location where partitions are utilized is the boundary between the living and the working. Large open spaces that do not have any sense of division are sometimes inefficient and not as effective as they could be if boundaries were created. What is great is that partitions can range from being completely opaque to completely transparent. A partition can be a free-standing stone wall or a sheet of glass and everything else in between depending on the opacity of division necessary.

Some shophouses even have movable partitions which make a lot of sense so businesses can always adapt to the changing needs of the owner and customer. The shophouse is an extremely flexible structure devised to correspond with the live-work lifestyle and movable partitions reinforce the shophouse to perform better. The partitions mirroring the responsive nature of the live-work building by adjusting to whatever necessary requirements contribute to the shophouse being successful. Partitions, whether movable or immovable, definitely have the potential to maximize interaction between the living and working areas.

6.4.2 - Minimizing Interaction by Emphasizing the Boundary >

While certain business owners prefer blending their living and working spaces together, a multitude of other entrepreneurs favor establishing a significant boundary between their living and working spaces. These individuals prefer a greater sense of detachment between their living and working spaces. Live-workers that want some segregation within their live-work structure are often willing to sacrifice integration if that will ensure added privacy.

FIG. 162 The stairway, at right, is completely separated from the ground level space so interaction is minimized by emphasizing the boundary between the living and the working
<http://www.flickr.com/photos/10062987@N03/1391469825/>

Occupants such as an attorney, accountant, or restaurateur would largely prefer a distinct boundary between where the owner interacts with a client and where the owner interacts with friends. It is ironic that many of these entrepreneurs covet spatial separation between their living and working zones as an essential asset, yet they live a convergent lifestyle where a majority of their day and night is spent under a single roof. It goes to show that most people, even live-workers, lead a very diverse way of life where some individuals lean toward integration while others lean toward separation.

6.4.2a - Floor Levels >

The separation of floor levels within a shophouse is a common spatial arrangement employed to emphasize the boundary between living and working areas. Vertically, the commercial activities tend to take place at ground level while the living spaces occur in the upper level. In certain instances, the shophouse could also be flipped upside down with the living area downstairs and the working space up top, but that is likely an exception and not the rule. For most businesses, it is more practical to utilize the upper level for living and the street level as work space to take advantage of the outside foot traffic.

The design of the upper floor and location of the stairway can alter the interior of a shophouse to isolate the living from the working by creating two spaces that are almost completely isolated from one another. The relationship of the upper floor to the ground floor helps determine the extent of interaction between the live-work areas. The ability to either maximize or minimize whether interaction occurs is what makes the shophouse a responsive live-work structure that can fulfill the occupant's needs.

FIG. 163 Toong Kwoon Chye Cafe where upper level is completely separate from ground level space (Kuala Lumpur, Malaysia)
<http://www.flickr.com/photos/lcy/2616075560/>

An example of a shophouse that minimizes live-work interaction is the non-loft type shophouse (fig. 163). This type of shophouse contains an upper floor (sometimes including the stairway) that is closed off to the ground level space. The non-loft type shophouse is designed to seal up and prevent any mixing of spaces so a visible and physical boundary exists. The boundary formed within a non-loft type shophouse creates a divi-

sion that allows a person to separate themselves from their work while still living directly above their business.

The non-loft type design enables non-employees (family members or friends) to go about their daily routine, out of sight and out of mind, away from the customer. Shophouses that minimize interaction between the living and the working are advantageous for various types of occupants. This form of shophouse dictates a more emphasized boundary between the living and the working areas. The non-loft type shophouse cordons off spaces that require privacy in order to be effectively used. The non-loft type shophouse represents an opposing design of how an individual can maintain the live-work lifestyle, but with added separation between floors. In essence, business owners have the opportunity to pursue a live-work lifestyle whether they opt for shophouse that emphasizes or deemphasizes the border between floor levels.

6.4.2b - Stairways >

The party wall stairway (fig. 153) is more prone to minimizing interaction between the living and the working compared to the airwell stairway (fig. 154). The location of the party wall stairway being positioned toward the front of the shophouse allows people to proceed upstairs without really setting foot downstairs. The airwell stairway forces the occupant to really set foot into the downstairs space in order to continue upstairs.

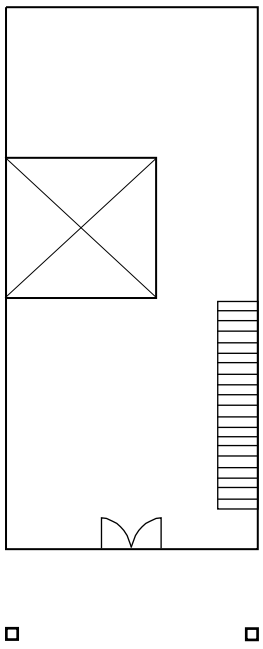


FIG. 153 Party wall stairway
<Tsutomi>

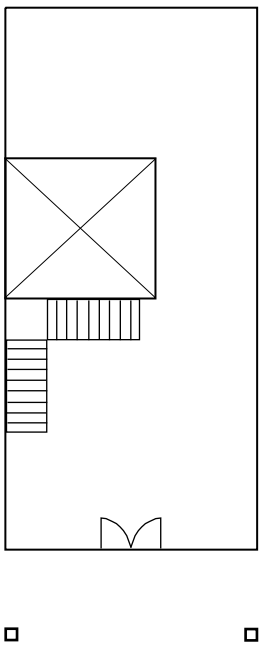


FIG. 154 Airwell stairway
<Tsutomi>

Whether enclosed or exposed, the party wall stairway provides the occupant an opportunity to sneak up to the second floor excluding interaction with the work space below. The arrangement offers a bypass route to the upper floor whereas the airwell stairway sits deep inside the shophouse floorplan. This prompts the party wall stairway to isolate the living area from the working area more so than the airwell stairway.

In addition to the type of stairwell, the openness of the stairwell is also a significant factor that needs to be considered when emphasizing or deemphasizing the boundary between live-work spaces. A stairway that is open and exposed tends to maximize interaction between the living and the working spaces (fig. 164). The ease of communicating between the upper and lower floor levels is less complicated. In comparison, a stairway that is enclosed will prevent interaction from transpiring between floor levels. A stairway that is sealed and closed off designates greater emphasis on maximizing the boundary between the living and the working areas (fig. 165).

FIG. 164 Partywall stairway open to airwell and entire first and second floors to maximize interaction
<http://www.flickr.com/photos/alizarindust/72358622/>

FIG. 165 Partywall stairway in Kerry Hill Architects office resembles an enclosed partywall stairway in a live-work shophouse where interaction is minimized between floor levele (Singapore)
<Tsutomi>

The openness of the stairway also influences the stairs to appear a more integral component as it is encompassed within the shophouse. An exposed stairway can't help but be noticed throughout the shophouse while an enclosed stairway is much more capable of being concealed. An enclosed stairway permits the owner to better establish a boundary that minimizes interaction between the two floor levels.

6.4.2c - Walls >

This section will note how walls emphasize the boundary between living and working spaces to minimize interaction. The common party wall, as mentioned earlier, mainly functions as a structural support that also separates shophouse from neighboring shophouse.

The airwell walls and free standing partitions can dramatically alter the degree of interaction between living and working spaces. The airwell walls can emphasize the boundary between the front of the shophouse and the back of the shophouse quite significantly (fig. 166) . Utilizing opaque materials such as wood, stone, or drywall will suppress living and working conditions from being seamlessly integrated while still facilitating appropriate dialogue among the live-work spaces. For some people, an airwell that isn't transparent may be inexcusable, yet for others that same airwell may be charming as it serves to minimize interaction between spaces.

FIG. 166 Brick and drywall airwell emphasizing boundary between front and rear of the shophouse. Operable windows provide a controllable connective element to determine the amount of interaction-between zones
<http://www.flickr.com/photos/ericfirley/516339480/>

Although free standing partitions can help maximize interaction by organizing the interior of a shophouse, partitions can also minimize interaction by organizing the shophouse interior. Live-work structures that contain too large of a work space or living space can integrate partitions into the floorplan to create a space that is more efficient and produc-

tive. Certain shophouse businesses are more prone to succeed if there is a semi-permanent barrier – in the form of a partition – between the living and the working compared to a vast open space with no order (fig. 167).

FIG. 167 Former shophouse headquarters of the Tung Meng Hooi society founded by Dr. Sun Yat Sen in Penang. His followers lived in the shophouse. Intricately designed wood and glass partitions separating the front and rear of the shophouse to provide better organization among spaces.
<http://www.asiaexplorers.com/malaysia/sun_yat_sen_penang_base.htm>

The non-loft type shophouse is a wonderful example of live-work space for individuals who have an increased desire for privacy between the living and working spaces. The loft type shophouse, on the other hand, is ideal for live-workers who may not require heightened privacy and separation between their living and working spaces. The loft type shophosue has a second level space that overlooks the first level to create a double height volume. If the loft type shophouse were to rid itself of the second floor railing in favor of a full height wall, both the first floor and the second floor would take on entirely different appearances.

The first floor will be affected least as it will remain a double height volume since the ceiling wouldn't change. However, the ground floor space will not feel as open and airy with the introduction of a wall instead of a railing on the second floor loft space. The second floor will experience a far more substantial impact. The once open space that overlooks

and connects with the floor below will be sealed up and enclosed. The introduction of a wall in place of a railing on the second floor will prevent people from easily communicating between the two floors – essentially severing interaction.

Restraining the interaction between living and working spaces can also produce benefits regarding the prevention of noise and other unwanted sounds that travel between floors. Nothing can be worse for a shophouse owner than distractive noises coming from the upper level while trying to conduct business with a client or customer in the lower level work space. A sensible solution to the noise dilemma is to allow separation and connection to occur. The erection of a wall for the upper floor that incorporates openings that may or may not be operable to allow interaction between floor levels can be quite valuable. Providing a barrier that is flexible which can be sealed up or open is invaluable in responding to the needs of the occupant (fig. 168).

FIG. 168 Cafe in Hong Kong where loft space up above is enclosed with Chinese motif screens allowing visibility from upper level down to lower level
<http://www.flickr.com/photos/lcy/2225437935/>

Another condition where interaction can be minimized is the enclosure of either the party wall or airwell stairway. Both stairways give off completely different feelings when they are left open and exposed versus being completely sealed with a wall. A stairway that is fully enclosed will definitely minimize interaction from taking shape. The act of incorporating a wall with either type of stairway is significant because both designs will dramatically reduce interaction from taking place between the living and the working areas by establishing a more defined set of boundaries.

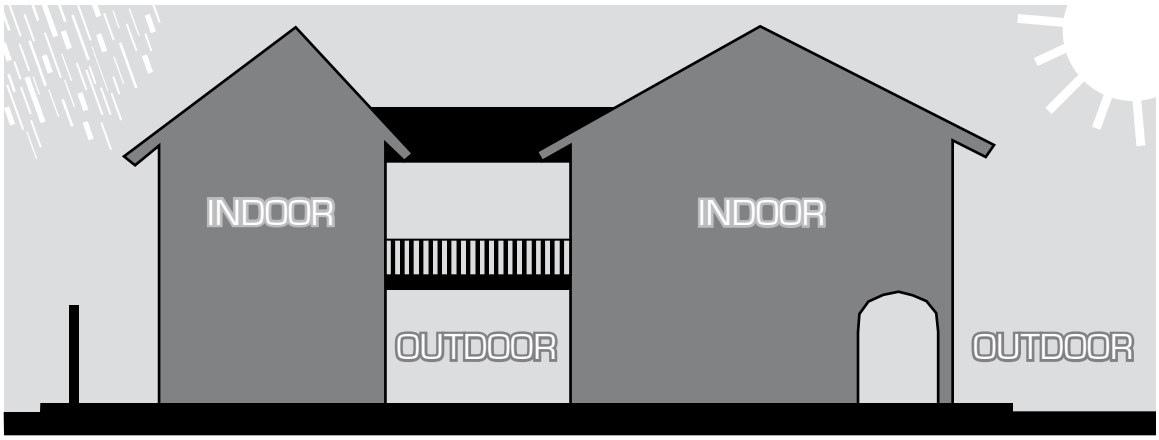


FIG. 169
<Tsutomi>

6.5 – Relationship of Indoor to Outdoor (fig. 169) >

The intrinsic nature of the shophouse to blend indoor and outdoor space at the building's front, rear, and central areas are due to the tropical climate of SE Asia. Yeang notes that the weather in Malaysia is characterized by "intense tropical sunshine, heavy seasonal rainfall and prevailing winds" (Yeang, 25). The sub-tropical climate of Honolulu isn't as severe as SE Asia, but still prone to frequent passing showers and intense sunlight. The probability of creating a shophouse that is both intriguing and functional increases when integration between the indoor and the outdoor are maximized.

The shophouses of the 19th and early 20th century are climatically responsive architectural models that are sensitive to the natural elements. The shophouse represents an insightful and resourceful building type tailored for the people of SE Asia. Yeang argues that since Malaysia has a warm-humid climate, the "buildings should use natural ventilation and be naturally cooling" (Yeang, 25). The shophouse is an environmentally sensitive multi-use structure that takes advantage of the dominant weather pattern of the tropical region. The resourcefulness of the shophouse to respond to the sun, wind, and rain is beneficial for the living and working lifestyles of the building owner. The shophouse utilizes natural daylight and ventilation to not only conserve energy, but also

provide charming interior spaces. The owner has a residence that is comfortable and a work space that is effective – all while bringing the outdoors, indoors.

Flexibility is also an important shophouse characteristic that must be considered when integrating indoor and outdoor spaces. Greater possibilities are generated when a space is flexible to accommodate integrating both zones. A multitude of spatial configurations exist when the likelihood of blending the exterior with the interior presents itself. There is a tremendous amount of opportunity contained within the shophouse building form to take advantage of combining both the exterior and the interior together on as many occasions as possible.

With the price of oil constantly soaring and the depletion of our natural environment at record levels, the shophouse undertakes a sensible approach toward implementing architecturally and climatically responsive features that maximize the indoor-outdoor interaction. The Honolulu shophouse model will maintain a train of thought cognizant with the surrounding environment. There are many sustainable attributes that can be utilized; however, added focus is placed on exploiting the concept of blending the indoor and the outdoor to the utmost.

6.5.1 - Climatically Responsive Concepts

6.5.1a-Building Orientation >

The orientation and siting of a shophouse is primarily dictated by city block design and adjacent neighboring shophouses (fig. 170). The location of a shophouse is usually predetermined because the urban design of a city is already established and existing buildings dictate the block layout. As a result, the freedom of orienting a shophouse to best capture what “Mother Nature” offers is not always feasible. Shophouses are often at a disadvantage since each structure is attached to one another. Yet, the live-work structure remains able to blend the indoor with the outdoor in order to capitalize on the natural environment.

FIG. 170 Grid plan of historically preserved Chinatown where city blocks are oriented at right angles to each other (Singapore)
<http://www.flickr.com/photos/lcy/2443235132/>

The Urban Redevelopment Authority (URA), Singapore’s preeminent governmental planning agency, enforces a strict review process to conserve traditional architecture and preserve neighborhood character (http://www.dwell.com/homes/renovations/2842226.html). The shophouse is classified under URA policy compelling the live-work structure to meticulously abide by strict preservation guidelines. Certain neighborhoods throughout Singapore endure tighter restrictions regarding the preservation of a building’s architecture and neighborhood character. The URA regulates the modifications that are adoptable so the reconstruction of a shophouse is sometimes limited in that the live-work structure must not veer to far off from the original shophouse building design .

The front façade is often the most scrutinized element of the shophouse as it expresses the bulk of information pertaining to the building's context within a neighborhood. When rehabilitating a shophouse, the front façade needs to be restored and repainted to resemble the original shophouse of old (http://www.dwell.com/homes/renovations/2842226.html). Maintaining the architectural details to remain intact and representative of the traditional shophouse is imperative (fig. 171 & 172). Therefore, altering the building orientation and site to further blend the outdoor with the indoor is rare and uncommon as the front facade is under a restrictive nature

FIG. 171 Shophouse restored to preserve ornate details
<http://www.flickr.com/photos/ddayusa/347490953/>

FIG. 172 Carefully restored yet brightly painted early shophouses
<http://www.flickr.com/photos/10062987@N03/1392354602/>

Although the front of the shophouse is confined by stringent regulations, everything behind the front façade of the shophouse (including the rear façade) is open for interpretation. The internal spaces of the shophouse and the rear façade do not need to remain reverent of the site and building context. The interior spaces are a blank canvas that can take on whatever form the owner deems necessary in order to create appeal – unlike the shophouse front (fig. 173 & 174).

FIG. 173 Meticulously restored shophouse front (middle) resembling the traditional facade of old
<http://www.dwell.com/homes/renovations/2842226.html>

FIG. 174 Same shophouse but with a completely redesigned modern rear
<http://www.dwell.com/homes/renovations/2842226.html>

Exploiting opportunities to merge the external with the internal is preferable to not only provide appealing live-work spaces, but also to capture and take advantage of various renewable resources. Architecturally responsive features (section 6.5.2 below) of the shophouse such as the five-foot way, pintu pagar, and airwell all aid the shophouse toward being a climatically responsive structure capable of harnessing the natural elements. Orienting certain areas of the shophouse to enhance what is emitted by nature improves the intertwining of the outdoors with the indoors. Designing a shophouse to seize the natural elements should always be pursued as the results are beneficial to the live-work environment and the blending of the outdoor with the indoor.

6.5.1b - Cross Ventilation >

The shophouses of the 19th and early 20th centuries were designed to be environmentally responsive buildings that take advantage of what nature offers. Capturing the prevailing dominant wind patterns to allow optimal cross ventilation and natural daylighting throughout the various spaces of a shophouse is ecologically prudent. The pre-established sensibility of the shophouse to grasp the concept of utilizing wind, rain, air pressure, and daylight to create a more pleasant shophouse is extremely sensible. The methods of how the shophouse employs cross ventilation while blurring the distinction between the indoor and the outdoor is ingenious (fig. 175).

FIG. 175 Shophouse airwell capitalizing on taking advantage of natural daylight and ventilation to create a more responsive and intriguing interior space where the outdoors is brought indoors
<http://www.flickr.com/photos/toomanythoughts/392610770/>

If a shophouse can establish a comfortable interior environment while minimizing the use of a Heating Ventilation and Air-Conditioning (HVAC) system, live-workers will benefit financially with reduced energy consumption. A reduction in energy use can also ensure a home will be less prone to the perils of installing, maintaining, repairing, and paying for an HVAC system. The less oil dependent a shophouse is, the better off the occupant and environment will be since the shophouse is a live-work space that garners extended hours of use both during the day and night. Utilizing what nature offers enables the shophouse to capitalize on being an efficient building that makes financial and environmental sense.

The basic concept of cross ventilation is the movement of airflow within a space where an inflow and an outflow of air occurs. The movement of air is achieved through wall openings that ideally are on opposing sides of a space. The size of the wall openings determines the amount of airflow that will enter and exit a space.

FIG. 176 Shophouse airwell literally blending the exterior with the interior while encouraging air to flow through and cool the building
<http://www.flickr.com/photos/iain_cocks/379172819/>

What is great about the shophouse design is the live-work structure is exposed to the outside not only at the building's front and rear, but also in the center (airwell). The air-well provides the shophouse with the advantage of bringing fresh air into the otherwise difficult central area of the structure. The shophouse would be consumed with stagnant air if it weren't for the openings in the airwell which allow ventilation to occur (fig. 176).

Besides the typical double-hung window or sliding glass door, a wall of large operable windows can maximize the flow of air. Oversized doors that pivot or rollup (overhead door) also provide larger than usual openings to increase airflow. In addition to increased airflow, the vast array of windows and extra-large doors better integrate the outdoor with the indoor. A blurring of the two zones creates a common space that is flexible to permit a variety of uses to transpire (fig. 177).

FIG. 177 Large street level entryways allow easy air circulation while intermixing the interior with the exterior
<http://www.flickr.com/photos/my_soul_insurance2004/2612120968/>

Providing substantial wall openings to maximize cross ventilation has two benefits: first, less dependency on energy because a space can naturally cool itself; second, the exterior becomes an extension of the interior as a blurring of space develops. The large openings allow substantial airflow which is always embraced in sub-tropical climates like Singapore. Large openings subsequently create a shophouse where one can't really decipher where the interior begins and ends. As a result, businesses benefit from the formation of a blurred border as they gain additional usable area.

6.5.1c - Natural Daylighting >

The shophouse is an urban building form that does not have the option to choose its position within the city. The limitations of location for the urban shophouse forces the live-work structure to respond to the natural elements regardless of building orientation. Supplying an adequate amount of natural daylight to permeate the internal areas of a shophouse is practical and desirable (fig. 178). The practicality of capturing as much daylight as possible to infiltrate the shophouse can lower energy consumption. When the execution of daylighting an interior is done correctly (without glare and direct sunlight), artificial lighting is rarely necessary. Harnessing sunlight to provide adequate ambient and task lighting for the living and working spaces of the shophouse is pleasing to the senses. The soft glow of daylight upon the interior is unmatched for illuminating the living and working spaces.

FIG. 178 Natural daylight filtering into the airwell of a shophouse cafe providing a pleasant ambiance
<http://bp2.blogger.com/_qHo0Pd4JHXs/RiM9Xx-iC5I/AAAAAAAAAsM/JkhwLkW-zVIo/s1600-h/14.JPG>

Since the shophouse is such a deep and elongated building form, getting the middle portion of the structure to receive sufficient sunlight is challenging. The design of the SE Asian shophouse, however, is very resourceful in that the live-work building is equipped with an airwell (or lightwell) that allows sunlight and air to saturate what would otherwise have been a dark and dreary interior. The airwell also does a wonderful job of integrating the outdoor with the indoor which will be further covered in the 6.5.2d section below.

In addition to cross ventilation, large windows and doors that are properly oriented to provide an ample amount of daylight can further incorporate the exterior with the interior. A shophouse that provides excellent daylight will undoubtedly contain its share of strategically placed windows and doors to illuminate the interior (fig. 179). Each aperture represents an opportunity that should not be squandered in trying to further blend the outside with the inside.

FIG. 179 Natural daylight from the airwell windows provide adequate ambient light for the interior of the second floor of a shophouse
<http://www.flickr.com/photos/ericfirley/516268224/>

The needs of a live-worker are a vital concern when trying to determine the adequate amount of permissible natural daylight. Most shophouse owners are keen to have as much natural daylight illuminating their space while the absence of direct sunlight is equally preferable. Glare and unwanted sunlight can be damaging and bothersome. A well daylit space is pleasant to occupy for a variety of users. Spaces that are sufficiently daylit can influence the shophouse to be truly livable and workable as tasks are easier to execute in a well lit space. A space that is daylit while also incorporating the exterior upon the interior creates spaces that feel appropriate and desirable for all occupants (fig. 180). Therefore, with the front façade of the shophouse primarily dictated by the adjacent shophouses, the interior spaces where natural daylighting flourishes must encourage a blurring of the indoor-outdoor relationship.

FIG. 180 Natural daylight permeating onto the second floor living area of a shophouse
<http://www.flickr.com/photos/ericfirley/516303821/>

6.5.1d - Roof Overhangs >

FIG. 181 Roof overhang shielding a sizable portion of the airwell from sun and rain
<Powell 138>

FIG. 182 Five-foot way sheltered by above floor and additional awning
<http://www.flickr.com/photos/lynnintokyo/2822940745/>

The design and use of large awnings and roof overhangs extending above windows, doors, and lanais allow the interior to open up to the exterior (fig. 181 & 182). The main reason for a large overhang is to provide shade and shelter from the elements. Whether the atmosphere unleashes direct sunlight, wind, or rain, sizeable roof overhangs can heighten the possibility of bringing the outdoor, indoor. Regardless of the vast shapes and sizes of the overhangs, each sheltering mechanism must possess the underlying ability of ensuring that a window, door, lanai, or space remains usable despite the weather conditions that exist outside.

During rainfall or intense sunshine, improving the utility of an open space like a lanai or a large wall opening can be better realized if a roof extension is constructed to provide shelter from the elements. Minimizing the vulnerability of how nature can affect the inner and outer workings of a shophouse while still allowing the live-work structure to remain open to the natural elements helps draw the exterior into the interior.

The blending of the interior and exterior spaces by way of large roof overhangs can also help with the natural ventilation of rooms within a shophouse. The tendency of walls to disappear and become large expanses of operable doors and windows that minimize the boundaries of a space improve the interior portions of the shophouse. Introducing a greater amount of airflow and daylight into the internal areas of the shophouse improves both the living and working areas (fig. 183). The live-work structure is better equipped to provide a healthy live-work environment that is open and exposed to take advantage of the cool breezes and luminous natural daylight.

FIG. 183 Airwell space benefitting from roof overhangs to open up entire walls where interior can blend with exterior
<http://www.flickr.com/photos/ericfirley/516285723/>

FIG. 184 Airwell space that meshes the interior with the exterior creates difficulty in deciphering what is inside and what is outside
<http://www.flickr.com/photos/ericfirley/516294253/>

Besides bringing the outdoor, indoor; large roof overhangs allow interior spaces to extend out onto the shaded outdoor spaces. The melding of both areas transforms what would have been two separate spaces to mesh together – to read as one common area (fig. 184). A kitchen and dining area can bleed out onto the exterior space to yield an outdoor cooking and dining area. The outdoor area can be a flexible space that is geared toward entertaining clients one day, and friends and family the next.

Since Honolulu has a similar climate to Singapore, a lot of living and entertaining is done outdoors. Therefore, the use of large awnings and roof overhangs are essential for the shophouse and its interior courtyard spaces. In essence, a shophouse can expand its amount of usable square footage by implementing sheltering devices such as awnings and roof overhangs. An increase in the usability of both interior and exterior sheltered spaces helps render the shophouse to accommodate year-round usage.

6.5.2 - Architectually Responsive Concepts

6.5.2a - Front Façade >

The front facade of the shophouse is composed of numerous architecturally responsive elements that contribute toward making the multi-use structure excel at blurring the distinction between the indoor and the outdoor. The streetfront facade is the essence of the shophouse. Each characteristic signifies the shophouse as a building that doesn't just promote living and working, but also the integral nature of combining the indoor with the outdoor. Between the roof, parapet, upper floors, columns, windows, doors, pintu pagar, and five-foot way, the front of the shophouse is the chief form of communication between the business establishment inside and the passerby outside (fig. 185).

FIG. 185 People playing outside completely open shophouse fronts that blend with the five-foot way (Bussorah Street - Singapore)
<http://www.flickr.com/photos/earplugs/1937979/>

Although limited by stringent government guidelines, it is crucial for the facade elements to blend the indoor with the outdoor as the climate in Singapore and Honolulu are ideal for tropical architecture. All of the facade components work in conjunction with one another by responding to and counteracting what "Mother Nature" and the sub-tropical climate of SE Asia exhibits on a typical day. The responsiveness of the streetfront facade to adjust to the changing climate regardless if the weather is harsh sunlight or pouring rain is why the shophouse is so effective (fig.186 & 187).

FIG. 186 Five-foot way providing shade from the sweltering heat and direct sunlight while windows and doors along pedestrian space can be left ajar to allow ventilation
<http://www.flickr.com/photos/annamatic3000/2878113256/>

FIG. 187 Front facade of shophouse provides shelter from the sudden downpours to keep pedestrians dry while walking
<http://www.flickr.com/photos/genkigenki/2302621454>

The front facade serves as the melding point regarding whether the connection between the indoor and the outdoor is literal or figurative. The literal connection being where air is allowed to physically flow freely; the figurative relationship is that there is only a visual correlation established between the inside and the outside. Although it would be ideal for a literal connection to be achieved between the indoor and the outdoor, as long as a relationship forms where a linkage between the two zones occurs is what remains vital.

How the streetfront facade manages to minimize the barrier between the inside and the outside is accomplished through the various architecturally responsive features such as the five-foot way, pintu pagar, and shuttered doors and windows. These attributes will be further discussed in latter sections (6.5.2b and 6.5.2c) as they are utilized by the shophouse to blend spaces that help the live-work structure perform better. Each characteristic is imperative toward the successful operation and performance of the shophouse.

FIG. 188 Front facade displaying some of the architectural characteristics (five-foot way, pintu pagar, shuttered doors and windows) that enable the shophouse to be responsive; Section showing working space at street level and living quarters up above. Street level space is more public-oriented while upper levels tend to be more private while always cognizant of blurring the boundary between indoor and outdoor
<http://www.flickr.com/photos/45372093@N00/1305051721/>

Creating living space above working space is extremely practical. The street level space allows businesses to take advantage of pedestrian foot traffic while the upper level space caters to resiential living which requires added privacy (fig. 188). The projection of the upper level extending past the lower level affords the above living area additional square footage while also creating a sheltering mechanism for the sidewalk below. In essence, the front facade of the shophouse has the ability to both embrace and prevent spatial dialogue all while fulfilling the need to blend the indoor with the outdoor.

6.5.2b - Five-Foot Way >

The shade and shelter supplied by the pedestrian only five-foot way is beneficial for a variety of reasons. The foremost advantage is the interspace provides shelter to help create a semi-enclosed space that is sealed on all sides but open to the street (fig. 189). The interspace allows pedestrians to go about their business regardless of rain or extreme sunlight as the sidewalk is protected. The interspace signifies an area of transition that isn't quite of the interior or of the exterior because a merging of spaces occurs in which the five-foot way is a tertiary space.

FIG. 189 Five-foot way is semi-enclosed on all sides but exposed to the street
<http://www.flickr.com/photos/toomanythoughts/347466637/>

The design of the shophouse façade, especially the interspace, empowers a business owner to dictate the extent of combining the outdoor with the indoor and vice versa. There is a substantial degree of interaction that can occur among the inner and outer zones at street level. The magnitude of blending the indoor and the outdoor within the interspace varies considerably. The diversity of shopfront designs is vast as businesses employ a wide array of window and door combinations they feel will be most beneficial.

The partially enclosed pedestrian space utilizes a variety of window types that emerge in all shapes and sizes. Customers and pedestrians passing by outside are allowed to catch vivid glances of the interior space. Business owners can install large windows (operable and non-operable) that exploit connecting the internal with the external in hopes of luring the customer inside (fig. 190).

FIG. 190 Large glass window and door assembly allowing inside outside connection
<http://www.flickr.com/photos/ez2axs/482273989/>

The prevalence of windows, especially operable windows, helps to decrease the physical barrier between the interior and the exterior by facilitating an uninterrupted visual dialogue. The interspace being a semi-enclosed space allows operable windows to be constantly open as the intrusion of rain and direct sunlight upon the interior is not a concern. The transparent nature enjoyed by the interspace also provides excellent ventilation as air can freely flow both in and out to naturally cool a space.

The sheltered interspace also allows a broad assortment of doorways to be incorporated into each shopfront (fig. 191, 192, 193). The entryways range from the completely open overhead door that resembles an auto garage to a solid wall with zero windows and lone door similar to a bar or a pub that portrays exclusivity. Although the assortment of doorways permit the shophouse to have numerous options of either blending or separating the outdoor and the indoor, it is preferable for the live-work structure to capitalize on integrating the two zones in a sensible fashion.

FIG. 191 Traditional timber door with pintu pagar allowing indoor-outdoor connection
<http://www.flickr.com/photos/lcy/123707459>

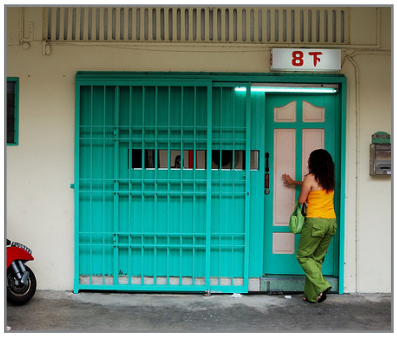


FIG. 192 Combination window-doorway entry that doesn't provide much connection between indoor and outdoor zones
<http://www.flickr.com/photos/lcy/123708078>

FIG. 193 Open entry has no windows or doors, threshold is non-existant as line between indoor and outdoor vanishes
<http://www.flickr.com/photos/ez2axs/1333416425/>

For a majority of shophouse businesses, the benefits far outweigh the drawbacks of relating the outside to the inside. The partial sheltering of the five-foot way allows the walkway to be used comfortably by business owners and pedestrians whether rain or shine. The heightened functionality of the five-foot way allows commercial space to extend out onto the sidewalk to draw the customer inside. The five-foot way is prime territory for business owners to setup merchandise displays and outdoor dining areas where people can interact. Pedestrians and business owners are able to better connect with one another as each individual experiences a sense of being simultaneously inside and outside while in the five-foot way.

The shade and shelter afforded by the interspace creates a dynamic environment. People have the opportunity to move in various directions as the flexibility of the five-foot way affords pedestrians and business owners the chance to feel secure yet stimulated. The flexibility to accommodate a variety of uses empowers the interspace with an ability to better connect people. Letting people move freely to come and go as they please helps to dissolve the boundary between the inside versus the outside – creating a space that is seamless. The barrier between the interior and exterior can be erased quite easily as the shophouse and the interspace is more than capable of catering to the changing needs of a business.

6.5.2c - Pintu Pagar >

FIG. 194 Pintu pagar hung from the door jamb in an open position
<http://www.flickr.com/photos/my_soul_insurance2004/2611241949/>

FIG. 195 Pintu pagar in the closed position with glass built in to allow visibility even when door is shut closed
<http://www.flickr.com/photos/my_soul_insurance2004/2611242679>

The Pintu Pagar is generally employed in shophouses that have converted their shop-fronts into residential structures. A pintu pagar is a fence door (half door) that is placed in front of the main doorway along the interspace (fig. 194 & 195). The average height of the pintu pagar is roughly five-feet to cover the lower two-thirds of the doorway. The fence door either rests on the ground or is hung from the door jamb and integrated within the doorway. The doorway is composed of four doors: the pintu pagar (fence-like) doors in front; two heavy solid plank doors behind (Kohl, 111).

The pintu pagar prevents passerby from openly viewing the interior and the inhabitants while still allowing ample ventilation through the remaining open space in the doorway (Kohl, 111). The pintu pagar affords occupants a sense of security and privacy while still retaining a connection to the outside. The fence door manipulates the entryway to remain partially open to allow air to freely pass through; yet, the entry is adequately enclosed to make stepping inside a deliberate motion. The pintu pagar permits occupants to still see, hear and feel the effects of the exterior while residing inside the shophouse.

FIG. 196 Whisky retailer welcoming patrons inside with an open pintu pagar
<http://www.flickr.com/photos/ez2axs/171764582/>

The pintu pagar isn't primarily used for shophouses that maintain businesses in the ground floor level. Nonetheless, the pintu pagar can be incorporated into the entryway for certain types of work areas that prefer a soft barrier between their business space and the interspace. Establishing a portal to resonate interspace life with shophouse life can lead to enhanced customer foot traffic for certain types of commerce (fig. 196).

Establishments such as a barber shop, ice cream parlor, toy store, electronics store, certain restaurants, and any other place that wants to draw the inside to the outside and vice versa along the interspace can adopt the pintu pagar for better results. The pintu pagar equips these businesses with the ability to devise various degrees of privacy by not being completely exposed to the interspace and not completely sealed off either. Retailers and service providers that lean toward the casual, yet the professional are ideal. The types of businesses that avoid being fully vulnerable while still desiring a connection and division between the inside and the outside are prime candidates.

The half door doesn't fully obstruct and prevent a potential customer from entering the commercial space as opposed to a solid full height door which is less welcoming. The formality of a full height door in comparison to a partial height door gives off a completely different feeling. A full height door creates a definite boundary between the interior and the exterior while a partial height door creates a false boundary. In contrast to a regular door, the pintu pagar establishes a sense of entry that is flexible in that the fence door

can separate space while also connecting space. The pintu pagar allows an enhanced connection between the inside and the outside both physically and emotionally as the sights, sounds, and smells of the live-work lifestyle permeate throughout the five-foot way.

6.5.2d - Airwell >

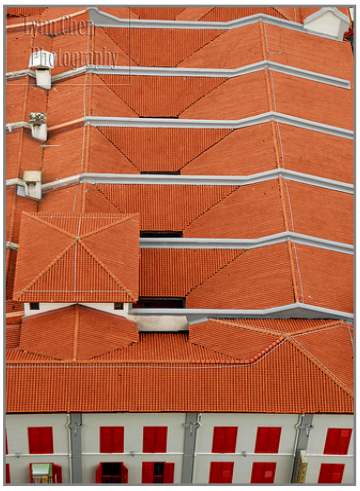


FIG. 197 View of airwells from above
<http://www.flickr.com/photos/lynnkyo/2808945788/>

FIG. 198 Looking up at the sky through the airwell
<http://www.flickr.com/photos/prawncrisps/2293663909/>

The airwell is a vertical volume of space that essentially functions as a lightwell, skywell, atrium, and courtyard space all-in-one (fig. 197 & 198). A typical shophouse has at least one airwell located roughly half-way back from the street between sections of the gable roofs (Kohl, 176). The airwell can take on two primary forms: firstly, the airwell is open to the elements (fig. 199); secondly, the airwell is enclosed with a translucent roof to serve as a lightwell while protected from the elements (fig. 200). There is an extensive assortment of additional manifestations the airwell can take on: a retractable roof; a pergola-type roof or trellis structure, and various other architecturally responsive designs that provide shade and shelter while remaining open to the elements.

FIG. 199 Open airwell exposed to the sky and the elements
<http://www.asiaexplorers.com/malaysia/8_heeren_street.htm>

FIG. 200 Enclosed airwell with shading device
<http://www.flickr.com/photos/toomanythoughts/392610773/>

The core purpose of the airwell is that the shaft allows air and light to permeate into the elongated floorplan of the shophouse. The extended depth of the shophouse tends to promote the build up of stagnant air and poorly lit dark spaces which is why the airwell is crucial toward bringing the outdoors, indoors (fig. 201). The airwell helps to supply natural daylight and ventilation into the depths of the shophouse. Whether or not the shophouse leaves the vertical space open or closed to the elements with no roof; a semi-enclosed roof; or a completely sealed roof is determined by the building owner. The airwell serves as a responsive solution that can solve architectural and climatic problems inherent in the shophouse.

FIG. 201 Airwell helping to bring sunlight and air into the central portion of the shophouse which would otherwise remain dark
<http://www.flickr.com/photos/turkisdach/388748853/>

It is common practice that the number of courtyards correspond to the depth of the shophouse where the deeper a shophouse is, the greater the amount of available courtyards (http://www.apsa2005.net/FullPapers/PdfFormat/Full%20Paper%20 (O-Z)/Wan%20Hashimah.pdf, 4). Therefore, some of the deeper shophouses can have more than one airwell. The increased amount of courtyards or airwells is a direct response to providing zones where blurring the indoor and the outdoor are readily available.

The airwell possesses the power to not only blend indoor and outdoor spaces by allowing air and light to penetrate inward, but also an opportunity to manipulate space. The airwell can transform itself into an atrium that is filled with water features, lush landscaping, and hardscaping. The atrium-like space is adaptable and can be modified to accom-

modate various designs. The airwell can turn into a courtyard arrangement where the rooms and spaces that are adjacent can seamlessly blend the outdoor with the indoor (fig. 202 & 203).

FIG. 202 Airell with lush landscaping to bring the outdoors indoors
<http://www.flickr.com/photos/turkis-dach/28496806/>

FIG. 203 Airwell incorporating water and plantlife to bring nature inside
<http://www.flickr.com/photos/toomanythoughts/392610770/>

For example, a room that has windows on its streetfront wall can also have windows on its rear wall facing the airwell due to the direct proximity of the vertical shaft. Designing interior spaces that open up to the airwell space can further integrate the two zones. The airwell brings the outdoors, indoors, both metaphorically and figuratively by blurring the distinction between the exterior and the interior to create a space that is ambiguous. The location of the airwell being centralized within the depths of the shophouse is a little perplexing in that a piece of the outdoor is brought indoor, yet that outdoor space is surrounded by indoor spaces. The airwell can turn a building inside out where a public space is created indoors as a type of inversion (Powell, UAH-22).

The airwell can be utilized to alter the natural daylight in an interior space by varying the amount of permissible sunlight. The manipulation of light can affect the depth perception and emotional state of an indoor space. The airwell can flood the courtyard area with a

tremendous amount of sunlight to make one feel as if they are outdoors even though they are within the confines of a shophouse. On the other hand, a soft glowing light can balance and complement the interior in creating a harmonious space that minimizes the need for artificial light during daytime hours. In essence, the airwell can be utilized as a dimmer to increase or decrease the amount of allowable light and air into the interior of the shophouse (fig. 204).

FIG. 204 Airwell capturing natural daylight to softly illuminate the interior of the shophouse restaurant
<http://www.flickr.com/photos/ericfirley/517361023/>

In terms of constructing an architecturally and climatically responsive structure, the airwell is an elegant solution that can naturally ventilate and daylight the interior spaces of the shophouse. In addition, the airwell is able to smoothly integrate the nuances of the interior architecture with the exterior environment. It would be foolish to squander the inherent opportunities of blurring the exterior with the interior in an urban tropical context like Singapore and Honolulu – the shophouse doesn't.

SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT

+ Underutilized strip of light industrial buildings along chaotic Queen Street (Kakaako Mauka) where pedestrians are second to the automobile (Tsutomi, 9/3/08)

VALIDATING THE NEED FOR THE SHOPHOUSE IN HONOLULU

7.0

PART 1: RESEARCH DOCUMENT

7.0 - VALIDATING THE NEED FOR THE SHOPHOUSE IN HONOLULU >

7.1 - USER DEMOGRAPHICS >

7.1.1 - Rise of Telecommuting >

The amount of people across the nation that work from home at least once a week or are contract workers is increasing on a yearly basis nationwide. People nowadays work more hours than they did a decade ago – roughly five more hours per week (http://www.uli.org/AM/PrinterTemplate.cfm?Section=Home&CONTENTID=23264&TEMPLATE=/CM/ContentDisplay.cfm). According to the 2004 American Interactive Consumer Survey conducted by The Dieringer Research Group (DRG), “The number of employed Americans who performed any kind of work from home, with a frequency range from as little as 1 day a year to full time, grew from 41.3 million in 2003 to 44.4 million in 2004, a 7.5 percent growth rate.” (http://www.telcoa.org/id33 .htm). The eminence of traditional bricks-and-mortar workplaces is dwindling nationwide as the amount of people who work at non-traditional work establishments is gradually increasing (fig. 205).

FIG. 205 Young entrepreneurial couple working from home
<http://www.jupiterimages.com/popup2.aspx?navigationsubtype=itemdetails&itemID=23057868>

From 2004 through 2006, the DRG notes further evidence of the rising telework trend. The amount of full-time employees who worked from home at least once a week grew from 7.6 million (2004) to 9.9 million (2005) to 12.4 million (2006) (http://www.workingfromanywhere.org/news/Trendlines_2006.pdf) (fig. 206). When you factor in contract workers, the number jumps up to 28.7 million (http://the.honolulu advertiser .com/article/2007/Aug/06/bz/hawaii708060346.html). More and more Americans are realizing the efficiency of commuting to an office or manufacturing plant is proving less and less essential. Teleworkers can go about their business at a variety of other locations that range from a local telework center to a satellite office or one's personal automobile.

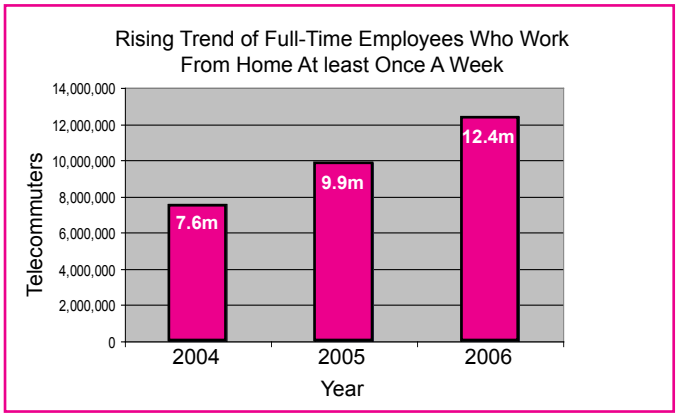


FIG. 206 Rising trend of American telecommuters who work from home
<Tsutomi>

The main contributing factor as to the increase of people telecommuting is the proliferation of high-speed internet access. Being able to wirelessly communicate allows many occupations and entrepreneurs the ability to work from their home or live-work space such as the shophouse. The DRG notes that in 2003, there were 4.4 million teleworkers working from home with a broadband connection (http://www.telcoa.org /id33.htm). That amount soared to 8.1 million the following year, an increase of 84 percent (http://www.telcoa. org/id33.htm).

Telecommute vs. Non-Telecommute (current)

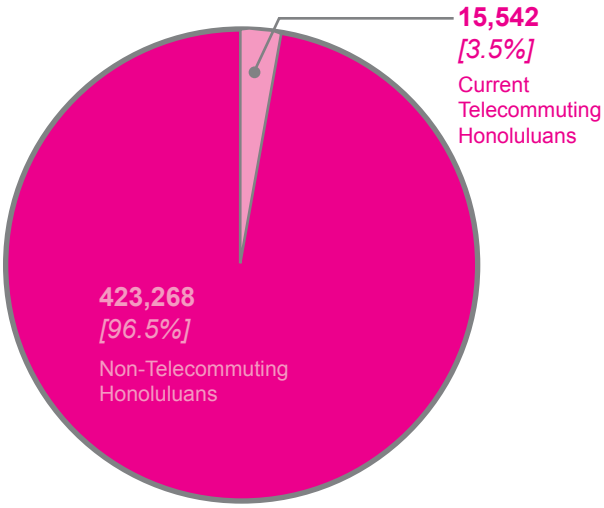


FIG. 207 Current percentage of Honoluluans that telecommute vs. total amount of working Honoluluans
<Tsutomi>

Telecommute vs. Non-Telecommute (future)

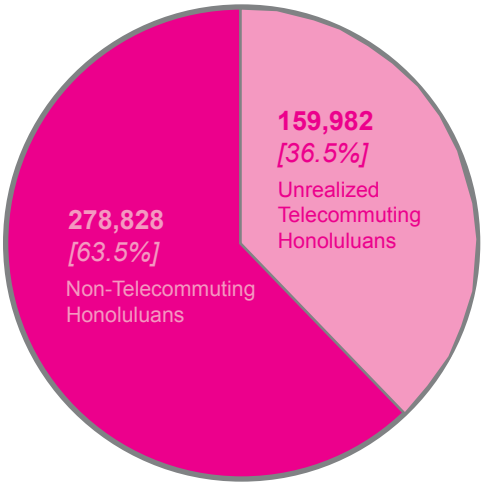


FIG. 208 Unrealized percentage of Honoluluans that could telecommute vs. total amount of working Honoluluans
<Tsutomi>

Locally, the amount of teleworkers in Honolulu has also risen throughout the years as innovations in technology have made it easier for people to telecommute. However, the amount of telecommuters here in Honolulu is vastly unrealized according to Undress4success.com. Undress4success.com notes on its website that the total amount of workers in Honolulu is 438,810, while the total amount of teleworkers (included within the 438,810) is a measely 15,542 (fig. 207). The percentage of teleworkers to total workers in Honolulu is a meager 3.5 percent. Undress4success.com notes that the amount of people that can work from home in Honolulu could number approximately 159,982 (of the 438,810 workers) to boost the percentage from 3.5 percent to 36.46 percent (fig. 208). The city of Honolulu is currently under performing in regards to delivering opportunities for telecommuters to capitalize on. The approach a shophouse takes to combine living and working spaces under a single roof is remarkable and should not be denied any longer. The flexibility inherent within the shophouse is a wonderful characteristic that can help bolster the proliferation of telecommuters in Honolulu.

7.1.2 - Boom for Small Business Entrepreneurs >

The current slowdown in the U.S. economy is hopefully just a hiccup on the road to a speedy recovery. The American people are presently dealing with soaring inflation as the rising costs of every day necessities climb while the economy dips in the opposite direction as recession and economic growth taper off. People are losing their homes, life savings, and financial security all while the price of oil and gas continue to escalate at record amounts.

Nevertheless, beneath the volatile financial and economic forecasts exists a silver lining – latent business opportunities are just waiting to be realized (fig. 209, 210, & 211). What it takes is having the insight on knowing where to look in order to provide people with the things they both want and need. New and existing small business owners are currently taking advantage of rock-bottom interest rates and reduced property values. It is arguably less risky to launch a business now than ever before (http://money.cnn.com/2007/01/22/magazines/fsb/entrepreneurship.boom.fsb/index.htm). Low interest rates have made it easier and cheaper for entrepreneurs to borrow funds (http://money.cnn.com/2007/01/22/magazines/fsb/entrepreneurship.boom.fsb/index.htm). In a 2006 Yahoo Small Business and Harris Interactive survey, 66 percent of respondents noted they want to start a company someday while 37 percent of those said they plan

FIG. 209 Manabu and Fumiyo Asaoka, owners of Mana Bu's Homemade Japanese Musubis & Sweets
<http://www.tastyisland.net/images/manabu_fumiyo_asaoka.jpg>

FIG. 210 Long lines form inside Mana Bu's as the musubi shop sells out within an hour of opening on a daily basis
<http://www.tastyisland.net/images/manabus_line.jpg>

FIG. 211 Some of the Musubi merchandise on display waiting to be purchased
<http://www.tastyisland.net/images/manabus_shelf2.jpg>

to do so within the next five years (http://money.cnn.com/2007/01/22/magazines/fsb/entrepreneurship.boom.fsb/index.htm).

Paul Brewbaker, chief economist for bank of Hawaii, comments that the economy is resilient and "It's actually not as bad as some people think." (http://cochawaii.org/_cmx/cmx_article/articleView.asp?action=detail&ArticleID=529&Category=7). Despite the torrent of bad news, Pearl Imada Iboshi, state economist for the State of Hawaii, notes that "the numbers aren't that bad" (http://cochawaii.org/_cmx/cmx_article/articleView.asp?action=detail&ArticleID=529&Category=7). Iboshi also mentions that "People forget that the economy generally goes in cycles" so we are hopefully only experiencing a cyclical downturn and not a major setback (http://cochawaii.org/_cmx/cmx_article/articleView.asp?action=detail&ArticleID=529&Category=7). In essence, now is as good a time as ever to be an entrepreneur or small business owner if you have a clear understanding of the market and the ability to adapt and be resilient (fig. 212).

FIG. 212 Alan Young, owner of Young's Fish Market in Honolulu adapts to changing customer needs by implementing internet expansion and mail order <http://www.flickr.com/photos/oviphoto/375377066/>

As the increase of telecommuters continue to rise, small business owners are actually the primary segment that composes the live-work market. Most telecommuters work for an employer while entrepreneurs are the individuals who actually own a business. According to Texas-based Administaff Inc.'s survey of more than 6,000 small and mid-sized businesses throughout the U.S. are continuing to grow and expand. The national

survey conducted noted that nearly 78 percent of small business owners and managers maintain that their companies will meet or surpass growth expectations for 2008 (http://pacific.bizjournals.com/pacific/stories/2008/06/02/daily25.html?ana=fcon).

A large portion of today's Fortune 500 companies originated from humble beginnings. A large portion of small businesses that prosper into large, highly successful companies began in people's homes and garages. Companies like Hewlett Packard, Google, Mattel, Apple, and Walt Disney all trace their inception to the garage (http://money.cnn.com/magazines/fortune/fortune_archive/1996/03/04/210053/index.htm) (fig. 213 & 214). The incubatory stage of a business is crucial and the shophouse is a wonderful building typology that can nurture the infantile (teenage and adult) phase of a business to lead to bigger and better things.

FIG. 213 Garage that built Google in Menlo Park, California
<http://www.seroundtable.com/google%20garage-bought.jpg>

FIG. 214 Google founders Larry Page and Sergey Brin in the Google garage of former house owner Susan Wojcicki
<http://money.cnn.com/galleries/2008/fortune/0809/gallery.google_anniversary.fortune/>

Developing a business from the ground up requires capital, and most startups lack sufficient resources which is why the shophouse is a perfect model that allows living and working to simultaneously exist on a single property. Startups typically don't have adequate funds so getting by on a monthly or daily basis can be extremely tough. The flexibility of the shophouse facilitates a variety of uses to transpire. Providing a volume of space that sustains an elastic relationship between living and working uses is optimal for entrepreneurs who need space to brainstorm, sell merchandise, or provide a service.

The capacity as to how a live-work space allows a diverse array of business owners the opportunity to focus on and experiment with various pursuits is exemplified within the shophouse (fig. 215 & 216).

FIG. 215 Straits Records, record label and music store housed in a shophouse (Singapore)
<http://www.flickr.com/photos/hexlord/284422983/>

FIG. 216 Bookstore retailer taking up business in a shophouse. Airwell space at left opens up the store interior to the exterior
<http://www.flickr.com/photos/yeow/2142997168/>

While the efficient and nurturing nature of the shophouse is a wonderful characteristic that helps small businesses blossom and mature, the live-work space also assists entrepreneurs by simplifying their otherwise hectic lifestyle. A shophouse not only offers convenience and flexibility that is vital toward the success of a business, but also economic benefits that are attractive.

When permissible, it is more sensible to own a single live-work environment compared to two separate buildings (http://www.thevoiceofkapolei.com/index.php?option=com_content&task=view&id=86&Itemid=1&date=2020-05-01). The advantage of owning only one property and subsequently having to worry about a single mortgage as the home and office falls under the same roof is appealing (http://www.ajc.com/search/content/living/homeandgarden/stories/2008/03/17/HGlivework_0320.html) (fig. 217). Being able to direct your monthly payments toward building equity rather than paying rent (someone

else's mortgage) is a significant benefit. Acquiring tax deductions for mortgage interest payments and the potential for appreciation if the property is sold are also beneficial by owning a live-work property (http://articles.latimes.com/2008/apr/13/realestate/re-live-work13).

FIG. 217 Diane Dorney of Gaithersburg, Maryland in her Town Paper office work space which sits below her living space above
<http://www.cooltownstudios.com/2004/03/P10/>

The amount of multiple bills and paperwork like dual rents, mortgages, and taxes associated with having a workplace that is separate from a residence can be quite complex and not worth the hassle. The economic advantage of living where you work and working where you live can dispel a majority of the formalities inherent in running a small business. Another positive financial attribute of the shophouse is that a building owner can lease, live in or sell whatever portion of the building they deem necessary if the owner feels that is in their best interest (http://www.housingzone.com/article/CA6491707.html).

In contrast to the dismal state of the U.S. economy, America remains a well-oiled capitalist machine that is "in the midst of the largest entrepreneurial surge this country has ever seen" (http://money.cnn.com/2007/01/22/magazines/fsb/entrepreneurship.boom.fsb/index.htm). According to the projections of the Small Business Administration (SBA),

roughly 672,000 new companies were created in 2005 compared to 30,000 less start-ups in 2004 (http://money.cnn.com/2007/01/22/magazines/fsb/entrepreneurship.boom.fsb/index.htm). The 672,000 new companies mark the largest business birthrate in U.S. history, 12 percent more than during the apex of dot-com frenzy in 1996 (http://money.cnn.com/2007/01/22/magazines/fsb/entrepreneurship.boom.fsb/index.htm).

Although many Americans want to be their own boss, owning your own business is much more difficult and time-consuming than one could imagine. Owning your own business is by no means an endeavor that guarantees success. The SBA projected that 544,800 small businesses closed in 2005 which is a slight increase from the 540,658 that folded in 2003 (http://money.cnn.com/2007/01/22/magazines/fsb/entrepreneurship.boom.fsb/index.htm). “Entrepreneurship remains a risky endeavor” (http://money.cnn.com/2007/01/22/magazines/fsb/entrepreneurship.boom.fsb/index.htm). Nevertheless, a responsible entrepreneur always thinks of ways to improve one’s business in order to be more innovative, efficient, and ultimately profitable. There are no days off when it comes to running your own business, yet Americans will always strive to be their own boss as entrepreneurship is the American way.

In Honolulu, 95 percent of the establishments are composed of less than 50 employees so the vast majority of companies qualify as small businesses (http://www.enterprisehonolulu.com/html/display.cfm?sid=96). The total amount of private sector establishments in Honolulu totaled 23,750 during 2001 (http://www.enterprisehonolulu.com/html/display.cfm?sid=96). Since the majority of businesses in Honolulu are rather small, the shop-house is an exceptionally valid building typology that can cater to a broad scope of entrepreneurs. The proliferation of young entrepreneurs whether it be women, minorities, immigrants, teenagers, and corporate refugees – everyone is partaking in the rush (http://money.cnn.com/2007/01/22/magazines/fsb/entrepreneurship.boom.fsb/index.htm).

More and more Americans are willing to risk their livelihood for the opportunity to own their own company and be their own boss. Being able to assert a better grasp on dictating one's destiny is appealing for countless individuals even when the risk of failure constantly persists. Live-work spaces like the shophouse need to be integrated throughout urban environments across the nation and Hawaii as the shophouse is an extremely valid live-work model small business owners need to capitalize on – in order to better flourish.

7.1.3 - Surge of Baby Boomers >

A swell of baby boomers is sweeping across the mainland U.S. and Hawaii as Americans born after World War II near the 78 million mark. In Hawaii, residents 60 and older comprised just 16 percent of the population; by 2020, the population of residents 60 and older will almost double to 25 percent. The amount of boomers in Hawaii similarly reflects the national average of boomers throughout the continental U.S.

Baby boomers (born between 1946-64) currently comprise nearly a quarter of the US population (78 million out of 300 million) so these mid-forty to early sixty year olds are a force to be reckoned with (fig. 218). Boomers have enormous influence on steering America in a variety of directions because they have tremendous financial capabilities that can greatly affect the U.S. economy. Boomers are the precise type of individuals that make for wonderful shophouse occupants. The increased active lifestyles, buying power, and financial freedom many boomers enjoy along with their sound business expertise are all reasons why this demographic is such a vital market that validates the need for the shophouse in Honolulu.

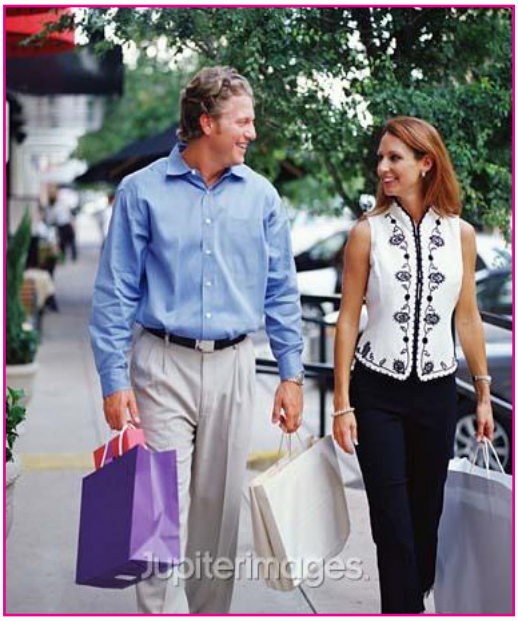


FIG. 218 Baby Boomer couple shopping on Main Street as they command tremendous buying power. Boomers are willing to spend money on a variety of merchandise for themselves, their children, and sometimes grandchildren
<http://www.jupiterimages.com/popup2.aspx?navigationsubtype=itemdetails&itemID=22178323>

Many boomers will gain further wealth as many will soon acquire their parents' inheritances (http://www.uli.org/AM/PrinterTemplate.cfm?Section=Home&CONTENTID=23264&TEMPLATE=/CM/ContentDisplay.cfm). "Boomers over 50 have a median net worth twice that of the average U.S. population, and they control 43 percent of all discretionary

income", as noted by Richard M. Rosan, president of the Urban Land Institute (http://www.uli.org/AM/PrinterTemplate.cfm?Section=Home&CONTENTID=23264&TEMPLATE=/CM/ContentDisplay.cfm). Baby boomers are compelling because their population will only continue to grow for the next few decades as its members get older. Boomers will continue to be a substantial segment of the population that is adept at running their own business as they have garnered immense work experience in a variety of disciplines that can be further exemplified through a live-work space like the shophouse.

Currently, the majority of boomers have at least a decade or two or three of work behind them so they have acquired vast career experience and reasonable wealth to lead comfortable lifestyles. However, according to a 2004 survey conducted by the American Association of Retired Persons (AARP), "79 percent of baby boomers plan to work in some capacity during their retirement years." (http://www.smallbiztrends.com/2007/11/entrepreneurs-does-retirement-fit-into-your-plans.html/). The delay of living a completely leisure lifestyle is for good reason: first, Americans are living longer, healthier lives while seniors are leading lifestyles that are more active than before; second, the pension plans of the future is reward-based so the longer an employee works, the greater the payout; third, for boomers born after 1960, full Social Security benefits will not be entitled until after the age of 67 years old (http://www.smallbiztrends.com/2007/11/entrepreneurs-does-retirement-fit-into-your-plans.html/).

Besides prolonging their retirement, baby boomers are steadfastly increasing the formation of their own businesses whether it be a sole proprietorship or corporation. Starting a new chapter in one's life can be difficult as change is always challenging. Yet, people like Franny Martin of Douglas, Michigan have left their 30-year corporate careers in the dust. Martin's transformation began while she was doing marketing for fast-food giants Burger King, Domino's Pizza, and McDonald's when she asked herself "If it was my last day on

Earth, is this really what I wanted to be doing?" (http://www.usnews.com/usnews/biztech/articles/060403/3primetime.htm). Her existential reflection gave her a new direction in life and that was to create Cookies on Call, a single store operation and online business (fig. 219). Martin who is 62 years old is but only one of the numerous senior entrepreneurs tackling a second career in the midst of her golden years.

FIG. 219 Franny Martin in her Cookies on Call bake shop in Douglas, Michigan
<http://www.bizstarters.com/pages/USAToday.pdf>

According to the outplacement consulting firm Challenger, Gray & Christmas (CGC), located in Chicago, a 2005 study of 3,000 job seekers found that 11 percent of those people (337 out of 3,000) started their own business were entrepreneurs over the age of 40 (http://www.usnews.com/usnews/biztech/articles/060403/3primetime.htm). Further statistics of the influx of baby boomer entrepreneurs is noted in an analysis also done by CGC in which government data notes that those 55-64 and older are one of the fastest-growing segments of self-employed workers (http://www.usnews.com/usnews/biztech/articles/060403/3primetime.htm). The amount of entrepreneurial folks 65 and older has grown 18 percent to 756,000 over a five year span (http://www.usnews.com/usnews/biztech/articles/060403/3primetime.htm). Younger boomers between 45-54 years old comprise more than a quarter of the nation's 9.6 million self-employed (http://www.usnews.com/usnews/biztech/articles/060403/3primetime.htm). In general, both boomers

and elder entrepreneurs now account for 54 percent of self-employed workers compared to 48.5 percent in 2000.

Boomers are definitely not afraid to “take the plunge” toward passionately pursuing new endeavors in exchange for sacrificing their deserved rest and relaxation. If starting a completely new business is too difficult, boomers also have the option to buy an established business which can be less demanding. After working for someone for so long, many boomers are seeking new avenues that allow them to still work, remain active, and most importantly create additional income while being their own boss. The shophouse enables baby boomers the ability to tackle a diversity of pursuits whether it be a cookie company or flower shop business that is of interest.

Living where you work and working where you live can be convenient for boomers as traffic and fuel prices increase across the nation. Being able to get up at 6:00 A.M., have breakfast, and be at work an hour later without even stepping foot beyond the front door is both practical and reassuring. Live-workers have the option of liberating themselves from the need to grind away each and every morning and afternoon commute – ultimately gaining back an hour or two of their life daily.

The shophouse is a fitting live-work model that accommodates boomers who get older, yet want to remain entrepreneurial as driving becomes more and more dangerous. With the placement of shophouses best located in transition areas between: residential and commercial-industrial; downtown commercial and industrial; and on residential edges permits boomers to locate themselves in vibrant areas of a city (http://www.live-work.com/lwi/codes/truths.shtml). These transition zones provide live-workers with the opportunity to live and work in areas that are in close proximity to the city core, but not dead center where real estate values are inexorably high. These secondary zones that ring

around the city core are still within walking distance to the heartbeat of a city, yet withdrawn enough to be affordable for many startup companies. The location of shophouses being situated in a concentric ring around the city core is strategically relevant for boomer entrepreneurs wanting to gain customer base as both foot and vehicular traffic transpire out front.

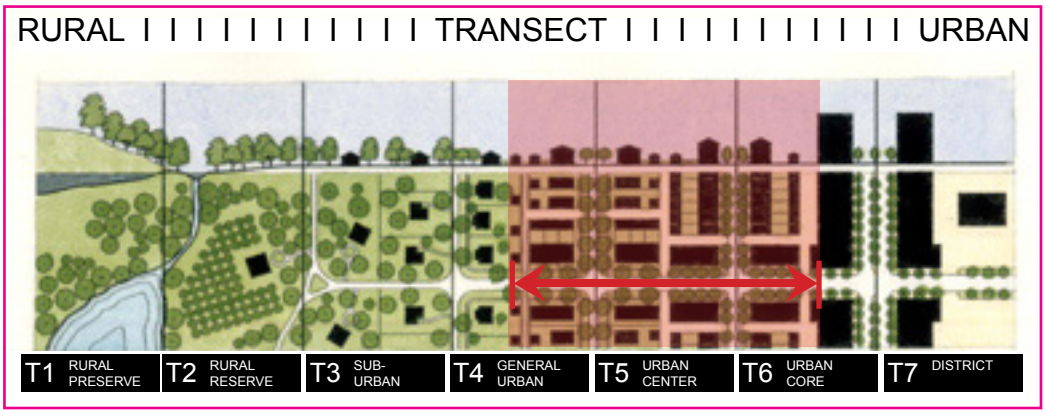


FIG. 220 Span of the three transition zone locations where shophouses tend to better proliferate:
1- Residential - Commercial/Industrial
2- Downtown Commercial - Industrial
3- Edges of Residential
<http://www.dpz.com/research.aspx>

The three transition zones noted by live-work.com represent buffer zones between different districts. Areas between residential and commercial-industrial; downtown commercial and industrial; and edges of a residential zone are regions ripe for shophouse development (fig. 220). Inserting appropriate live-work spaces like the shophouse within these transition zones (and other possible zones) provide a critical building block as to how two opposing districts can be aligned and bridged more successfully

Baby boomers or empty nesters as they are also known are increasingly migrating back into city cores where these now childless parents seek out easy access to culture, arts, and entertainment, along with a convenient way of living (http://www.uli.org/AM/PrinterTemplate.cfm?Section=Home&CONTENTID=23264&TEMPLATE=/CM/ContentDisplay.cfm). Reducing the distance between where baby boomer entrepreneurs live and work to where boomers want to play is what the shophouse can provide. The ability conveyed

by the shophouse to be best suited in transitional zones encircling the active city core enables entrepreneurial boomers to maintain a vigorous and active lifestyle (fig. 221).

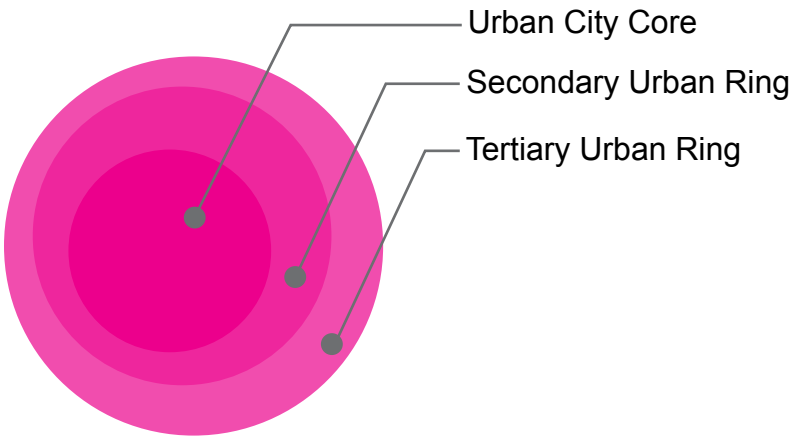


FIG. 221 Diagram of urban city core and surrounding concentric rings of density, development, and subsequent activity where shophouse and live-workers can prosper
<Tsutomi>

Cities such as Houston, Seattle, Chicago, Denver, Portland (Oregon), Atlanta, Memphis, and San Diego all experienced far greater increases in their downtown areas than in the city as a whole between 1990-2000 (http://www.uli.org/AM/PrinterTemplate.cfm?Section=Home&CONTENTID=23264&TEMPLATE=/CM/ContentDisplay.cfm). For example, the downtown population in Houston grew by 69 percent while the city's entire population rose by 20 percent (http://www.uli.org/AM/PrinterTemplate.cfm?Section=Home&CONTENTID=23264&TEMPLATE=/CM/ContentDisplay.cfm). Additional cities like Cleveland, Baltimore, Philadelphia, and Detroit also incurred population growths in their downtowns, but lost population as whole citywide.

More and more baby boomers are gaining freedom from their roles as parents because their children have left home for college and the careers that ensue. These empty nesters that have lived in suburbia for a good portion of their adulthood in order to raise a healthy family are now free to live for themselves again. Empty nesters are also finding that they have more discretionary income to relish upon since they no longer have to support their children.

Empty nesters are realizing they don't enjoy their suburban lifestyle as much as they did when they had children to care for. Nesters are trekking out of suburban sprawl developments and returning back to urban environments where increasingly sensible living and working opportunities exist for this aging demographic (fig. 222, 223 & 224). The rise of baby boomers and empty nesters across the nation is further proof that Honolulu needs shophouses as the need for live-work spaces is highly valid. If Honolulu doesn't adopt live-work spaces like the shophouse, the city will squander away a crucial opportunity that could transform Honolulu's urban fabric into a first class city that not only enhances the merging of East and West, but also small business prevailing against bug business.

FIG. 222 Comparison of a more urban-like setting at left vs. a suburban setting at right
<http://inhabitaustin.wordpress.com/2007/10/01/urban-or-suburban-where-should-you-live>

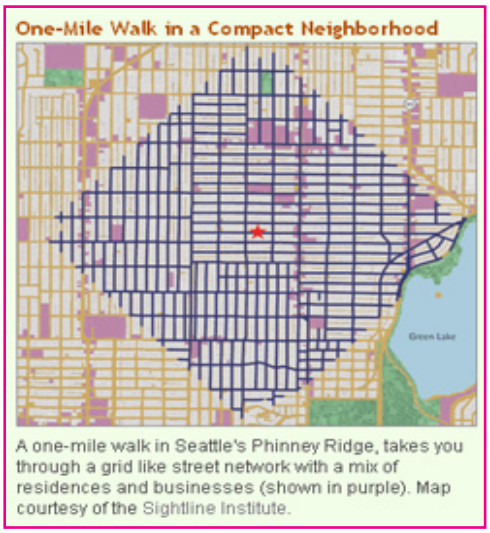


FIG. 223 One-Mile walking radius in a compact urban neighborhood
<http://farm2.static.flickr.com/1249/854796663_604f9b63ca.jpg>

FIG. 224 One-Mile walking radius in an urban sprawl neighborhood
<http://farm2.static.flickr.com/1249/854796663_604f9b63ca.jpg>

7.2 - ECO-CONSCIOUS >

7.2.1 - Environmentally Friendly >

Honolulu is at a tipping point where the city and island are on the verge of depleting its resources faster than they can be replenished. The increasing traffic nightmares throughout Honolulu's freeway system; the rising cost of gasoline; and acceleration of pollution across the island is growing at alarming rates. Many of these harmful events that are posing a threat to this island paradise can be counteracted by the increasing "green movement" that is currently all the rage. The environmental crusade is based on reducing your carbon footprint by living a more eco-friendly lifestyle (fig. 225 & 226).

FIG. 225 Hawaii 5-cent beverage container deposit program. Record high recycling in fiscal year 2008 with 72% of beverage containers recycled
<http://hawaii.gov/health/environmental/waste/sw/sw/hi5/pics/index_hi-5logobottom.gif>

FIG. 226 Bottle and can recycling in Hawaii
<http://ssl.honoluluadvertiser.com/livinginparadise/2007/recycling>

Minimizing the impact a person can have on this island state is catching on with more and more residents. Each islander is becoming increasingly aware that the preservation of the fragile and precious ecosystem of the Hawaiian Islands is of the utmost importance in order for future generations to flourish. The notion of citizens being held accountable for conserving the natural resources of Mother Nature is gaining momentum. Proof of a more eco-responsible Hawaii is evident in the HI-5 recycle program, trial period for the State of Hawaii workers conversion to a four-day work week, a possible ban on plastic grocery bags, and various other initiatives with eco-friendly undertones.

The integration of the shophouse into Honolulu can provide immediate results that offset and neutralize some of the alarming eco-environmental challenges currently impacting Honolulu. Freeways like the H-1 and H-2 on Oahu can experience reduced congestion if the shophouse is allowed to proliferate in urban areas of Honolulu. Incorporating the shophouse into Honolulu will help ease the island's consumption and dependency on fossil fuels toward becoming a reality (fig. 227). The shophouse allows people to stay off the road and out of their automobile by living a zero commute lifestyle. The live-work model empowers people to depend less on their automobile in order to go about their daily routine as the need to commute and run errands is drastically diminished. In addition, shophouses tend to be located in urban walkable neighborhoods freeing up residents and customers to hop on their bicycles instead of their cars (fig. 228).

FIG. 227 H-1 Freeway traffic in Honolulu near the Honolulu International Airport during afternoon rush hour. Everyone heading back to their homes out in the urban sprawl neighborhoods beyond Honolulu. Shophouse will allow people to live in denser communities and reduce the need for the automobile
<http://2050-hi.com/wp-content/uploads/2007/12/honolulu-traffic.jpg>

FIG. 228 Biking down Queen Street in Urban Honolulu
<http://alohafixed.com/july08.php>

Although pollution and smog in Honolulu is not as obvious as in health hazardous cities like Los Angeles or Linfen (China), the shophouse is an undeniably valid piece of the "eco-puzzle". Taking the appropriate precautionary steps to ensure a city like Honolulu will not resemble a highly polluted city is essential for the future of Honolulu. The live-work structure is a highly valid building type that can contribute to an improved cityscape and the shophouse can be the catalyst that assures Honolulu maintains due course.

7.2.2 - Reduce Pollution, Increase Livelihood >

Undress4success.com states that the current amount of carbon dioxide emissions being saved per year by the 15,542 individuals who work from home in Honolulu is 31,530 metric tons. However, 343,473 more metric tons could be prevented from reaching the atmosphere if the projected 159,982 unrealized telecommuters actually worked from home instead of a separate workplace. The air quality and all that is associated with carbon dioxide emissions in Honolulu would be cleaner and healthier if the amount of unrealized telecommuters had a space like the shophouse to live and work simultaneously.

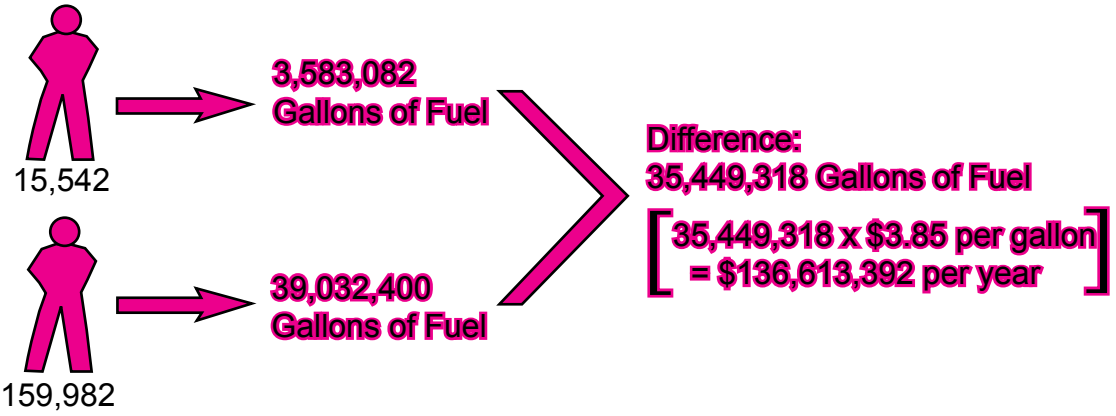


FIG. 229 Diagram showing the amount of savings Honoluluans could keep in their pocket by consuming less gasoline and realizing the possibilities of telecommuting <Tsutomi>

Undress4success.com also notes that the average amount of fuel saved by a telecommuter in Honolulu is 231 gallons per year at a cost of $807 per person (http://undress-4success.com/research/) . Quantifiably, the 15,542 telecommuters could save 3,583,082 gallons of fuel, while the 159,982 telecommuters could save 39,032,400 gallons – equaling a difference of 35,449,318 gallons (http://undress4success.com/research/). Undress-4success.com notes that the current 15,542 telecommuters save $12,540,786; whereas, the 159,982 telecommuters could save a staggering $136,613,392 per year (fig. 229). The untapped potential of allowing people to work from home could help Honolulu save roughly $124,072,606 per year.

By leading a telecommuting or zero commute live-work lifestyle, island residents reap vast benefits. People that work for local companies such as Sprint Hawaii and Kaiser Permanente can afford to make themselves more available for their family or personal interests by not having to spend upwards of two hours a day on the road in their automobile. Nearly three percent of Kaiser Permanente's Honolulu staff telecommute from their homes, Kaiser's clinics or offices, and any other place with a wireless connection (http://www.bizjournals.com/pacific/stories/2004/08/30/focus6.html? page=1).

FIG. 230 David Porteus
< https://www.boh.com/personal/362_David_Porteus.asp >

FIG. 231 Stacy Porteus
<http://www.parkerranchrealty.com/img/agents/stacy.jpg>

Honolulu residents such as David Porteus, a mortgage finance professional, and wife Stacy Porteus, a realtor, have more free time to spend with each other while raising their son without day care (http://www.bizjournals.com/pacific/stories/2006/04/03/focus2.html) (fig. 230 & 231). The Porteus family also has more time to enjoy the little things in life like going to the beach for a few hours if they feel the need (http://www.bizjournals.com/pacific/stories/2006/04/03/focus2.html). Having the ability to choose how you plan out your daily work schedule can be extremely gratifying as individuals are in charge of themselves.

Another Honolulu resident, Florence Chong, notes that there are immense benefits related to living a telecommute lifestyle. "The pros: flexibility for me to be there for my kids when they need me, no commuting in traffic and minimal exposure to office politics." (http://www.bizjournals.com/pacific/stories/2006/04/03/focus2.html). Chong's point regarding the commute to work is extremely valid because she is buying herself time which is priceless to many people because there are only so many minutes in a day.

7.2.3 - Compact Neighborhoods >

Living, working, and playing in a walkable community are especially convenient and practical for both the residents and the environment. Besides reducing traffic congestion and pollution, the shophouse is an effective building type that prevents urban sprawl. The narrow width of the shophouse and the common party wall shared between adjacent neighbors reflect a more efficient use of space along the lines of a multi-use structure rather than compared to a single family home where yards become wasted spaces (fig 232, 233, & 234).

FIG. 232 Shophouse capitalizing on its narrow width and lack of front and side setbacks to create a denser neighborhood
<http://www.flickr.com/photos/benlyons/386528241>

FIG. 233 Multi-use structure utilizing density to create compact development along Kapahulu Avenue (Honolulu)
<Tsutomi>

FIG. 234 Single family home in urban Punchbowl area (Honolulu) where front and side yard space contributes to wasteful land use
<http://www.brokersmls.com/bobbie.ma/images/upload/607914%20Green.jpg>

Urban Honolulu can only expand and spread out so much before it engulfs adjacent neighborhoods and rural areas which is why the shophouse can be a sensible solution to prevent the sprawl of Honolulu upon outlying communities. The common party walls coupled with the narrow building widths of the shophouse affords a higher units per acre ratio that densifies the urban landscape.

The shophouse is a responsible building form that recognizes appropriate pedestrian scale. The common party wall forces buildings to have no side yards or right-of-ways that take up valuable space in an urban environment. The party walls also create a more intimate type of living arrangement where your neighbors are directly beside you. Having barely any separation can either can be a positive or a negative lifestyle preference depending on one's perspective. What is certain is that a more compact living and working

arrangement such as the shophouse affords cities with the capacity to provide single-family-like quarters, but at a more efficient scale, in or adjacent to the city. The Honolulu prototype will need to be very sensitive to this type of live-work conditions as it is rarely available in the present day, but with the right framework, the shophouse could become ubiquitous throughout the urban city.

The 25 foot or less width of the shophouse exemplifies a responsible way of living and working. Shophouses are designed to be extremely flexible for a variety of uses, but more importantly functional. The efficiency of a shophouse to accomodate dual uses on a single property that is smaller than the average single family lot in Honolulu is extremely resourceful. When comparing a shophouse with a single family home, unit per acre density favors the shophouse. With one acre equaling 43,560 square feet, 29 shophouses (typical lot = 15' x 100') could presumably fit on an acre compared to only 8 single family homes (typical lot = 50' x 100') (fig. 235 & 236).

FIG. 235 10 shophouses in foreground taking up a paltry 175-200 feet of a city block
<http://www.flickr.com/photos/chongwee/391199628/>

FIG. 236 6 homes along 300' span and 9 homes along 350' span in Kapolei (Hawaii)
<Google Earth>

In Singapore, shophouses can be as narrow as 13 feet, so three shophouses could foreseeably fit on a single family property tripling the units per acre density. The Honolulu shophouse model will most likely be 20-25 feet wide as anything narrower may be too confining for American lifestyles. In addition, most buildings throughout Honolulu tend to be less efficient than the shophouse so integrating a slightly larger live-work model to Honolulu will still be a step in the right direction compared to what currently exists.

The economically scaled shophouse personifies “Smart Growth” principles. The shophouse promotes intelligent and sustainable growth. The basis of “Smart Growth” or “New Urbanism” is to concentrate growth to city centers as a way to prevent urban sprawl which in turn creates compact communities that make better use of land. These concentrated communities embrace transit-oriented, walkable, bicycle-friendly land use including neighborhood schools, complete streets that work for everyone, and mixed-use development with a range of housing options (http://en.wikipedia.org/wiki/Smart_growth). The size, scale, and effectual nature of the shophouse corresponds with everything smart growth.

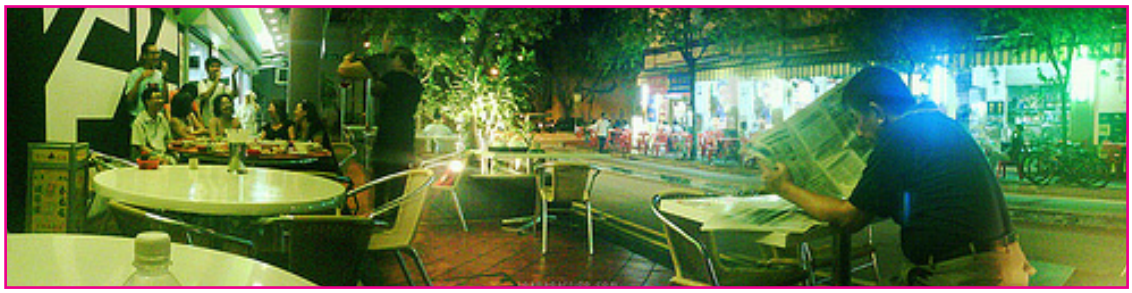


FIG. 237 Neighborhood life in the conservation district of Joo Chiat where residential and commercial use shophouses flourish on every street (Singapore)
<http://www.flickr.com/photos/onomatoh/373150184/>

The compact nature of the shophouse as an environment that integrates living and working space promotes walkability. Integrating the shophouse as a valid live-work model into the urban environment is sound city planning. The variety of uses housed within a shophouse allows people to not only live near their place of work, but also within walking distance of places they frequent and hangout (fig. 237). Shophouse occupants and various other neighborhood residents (condominium owners, apartment renters, etc.) are able to have their daily and weekly amenities located only a city block or two away. The shophouse complements the urban lifestyle by ensuring residents a diverse array of small businesses that help ensure a charming sense of community where residents curtail the need to use their automobile as a form of transportation.

7.2.4 - Transit Oriented Development (TOD) >

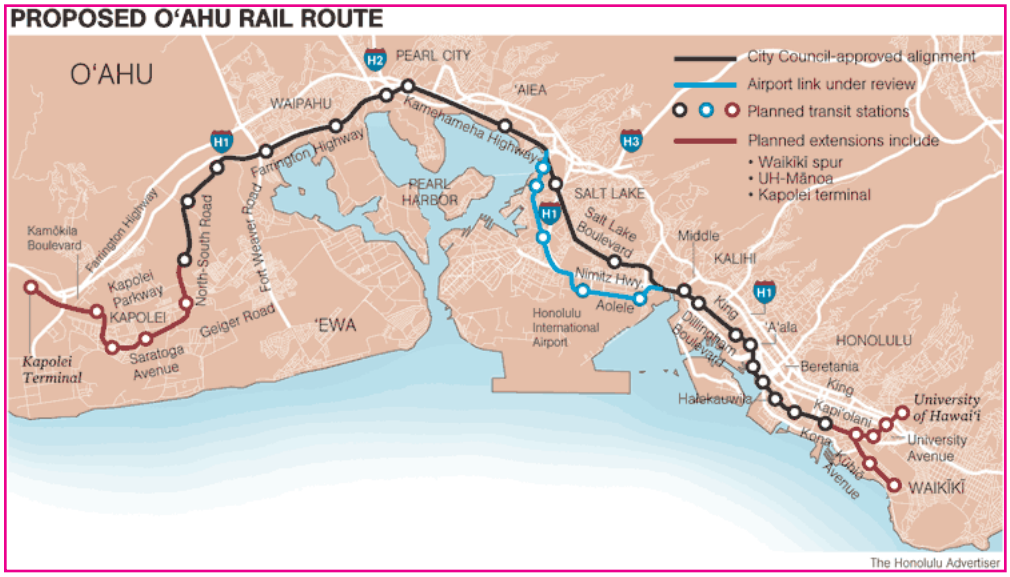


FIG. 238 Proposed rail route connecting Kapolei in West Oahu to Downtown Honolulu and possibly beyond to the University of Hawaii Manoa and Waikiki
<http://www.honoluluadvertiser.com/assets/gif/M1111783629.GIF>

With the likely introduction of a rail transit system commencing in Honolulu during the coming decade(s), integrating the shophouse into the urban core of Honolulu to correspond with the elevated rail line encapsulates smart growth values down to the very core. The implementation of a rail transit system along the southern portion of Oahu illustrates the progressive nature islanders are willing to take in order to steer Honolulu in the right direction (fig. 238). The integration of the shophouse in conjunction with the rail transit system (along the path of the rail route and surrounding the station stops) exemplifies a valid attempt for Honolulu and its people to be a more eco-responsible society.

The introduction of a rail transit system that will connect West Oahu to Honolulu (including East Kapolei, Waipahu, Aloha Stadium, Pearlridge Shopping Center, University of Hawaii-West Oahu, Leeward Community College, Kalihi, Honolulu Community College, Downtown Honolulu, and Ala Moana Shopping Center; with future extensions to Honolulu International Airport, University of Hawaii-Manoa, Waikiki, and West Kapolei) is a high probability. With the construction of the rail route come the many strategically

placed transit stops. Numerous TOD could be developed around the roughly 19 stations (one per mile) along the 20 mile elevated route that connects East Kapolei to Ala Moana Shopping Center in Honolulu. Establishing shophouses in the TOD around Honolulu will enhance life around the transit stops.

The TOD would be composed of an assortment of diverse mixed-use and multi-use developments encircling a centralized transit stop. A step down effect typically occurs around the transit station where higher density development is often the first concentric ring followed by surrounding medium and lower density developments. When viewed from above, a TOD will be pyramidal with the center housing the tallest buildings with the highest density while the next halo of buildings will be lower in height and density and so forth with the next following ring (fig. 239 & 240).

FIG. 239 Growth patterns in Arlington County, Virginia where high density, mixed-use development is concentrated within 1/4-1/2 mile radii from the Rosslyn, Court House, and Clarendon Metro stations. Notice, density is limited to area bounded within circles to maintain pedestrianism while preventing urban sprawl <http://en.wikipedia.org/wiki/Image:ArlingtonTODimage3.jpg>

FIG. 240 Urban neighborhood near the Clarendon Metro stop. Mixed-use developments combining retail, office, commercial, and residential all falling within the rings around the transit stop. <http://www.thearlingtondirt.com/2008/05/04/condo-focus-residences-at-station-square-in-clarendon-virginia/>

With the transit stop representing the origin of a town, TOD are generally no larger than a one-quarter to one-half mile radius in area. The normal walking pace for an adult covering a one-quarter mile distance is 5 minutes which forms the basis for the size and

area of a TOD. In Traditional Neighborhood Design (TND) or TOD (TND with transit), a five minute walk is all that is needed to get from the edge of town to the center; whereas, in suburban sprawl, there is no center, edge, or walking orientation which forces people to surrender to the automobile (http://www.dpz.com/research.aspx) (fig. 241). The time and distance limitation assures that each TOD is a community that promotes walkability over automobile use whether commuting to work or going out leisurely. Hence, a TOD is usually no greater than a 10 to 20 minute walk from town's edge to transit stop to opposing edge of town. A pedestrian can basically walk across the entire town in approximately 20 minutes.

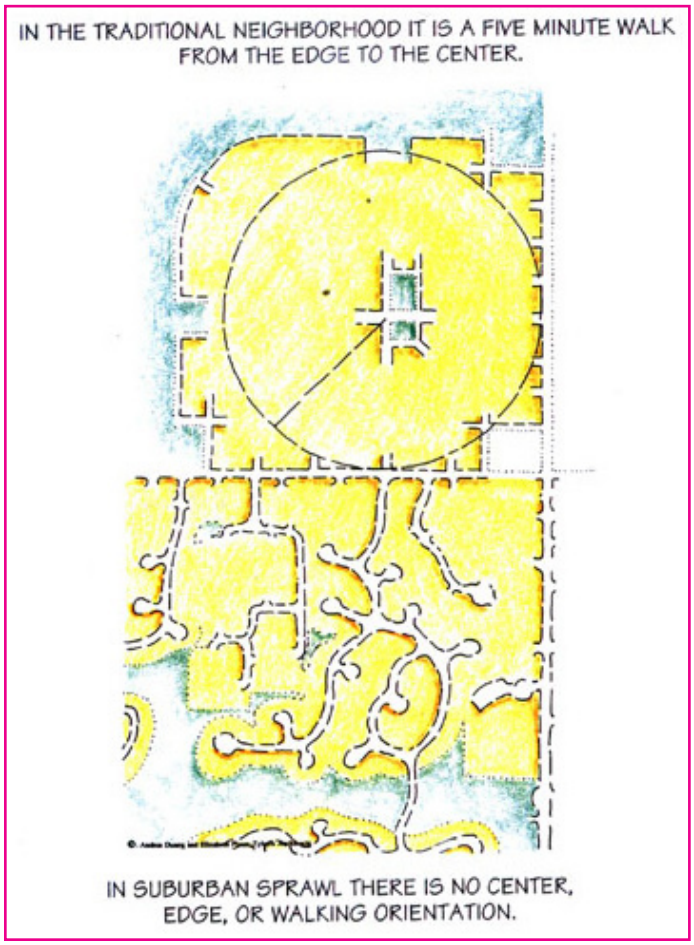


FIG. 241 Comparison of TND to Suburban Sprawl where TND has a town center, edge, and appeals to pedestrianism; whereas, Suburban Sprawl has possesses the opposites where no center, edge, or walking orientation is clearly defined
<http://www.dpz.com/research.aspx>

The basis of the one-quarter to one-half mile radius from transit stop (center of town) to town periphery is that the average American person is comfortable with walking a 5 to 15 minute travel distance in order to reach their destination. Otherwise, Americans will continue to use their motor vehicle as their primary mode of transportation in place of walking. Continuing the imbalance where driving outweighs walking or bicycling as a means of transportation will lead to a further downward spiral of pollution and road congestion throughout America, including Honolulu.

In addition, if walking is perceived as to be secondary and not primary, the very essence of what TOD symbolizes is nothing but a failure. To prevent TOD from being a disappointment, live-work spaces like the shophouse need to be integrated within the city. These multi-use structures are extremely vital toward nourishing the urban landscape, small businesses, and pedestrianism. The shophouse facilitates opportunities for people to live where they work and work where they play while providing wonderful unique small business establishments that appeal to residents and passerby.

Living in a TOD minimizes the need for automobile use because residents can walk to most of their destinations or hop a ride on the rail transit in order to travel to neighboring towns that are beyond a comfortable walking distance (fig. 242). The shophouse functions best when the live-work space is situated in transition zones between densities. Where the higher density converges with the medium and the medium with the low are prime locations where the shophouse best succeeds.

FIG. 242 Pearl District TOD in Portland, Oregon. Former light industrial area that has undergone tremendous urban renewal where streetcar transit, MXD, mid-to-high rise condominiums, and walkability are all intertwined to play a vital role in promoting TOD
<http://www.hoytstreetproperties.com/pearl_history.html>

It is sensible to arrange shophouses to fall in transition zones because live-work spaces are flexible. Shophouses can assimilate and integrate with whatever uses and densities are adjacent as the space is both residential and commercial. Shophouses can serve as a balancing mechanism to smoothly buffer the edges where a blending of densities needs to occur. Shophouses can raise the likelihood that TOD along a rail route will create a more sustainable community as live-work spaces can fulfill the gaps between the concentric rings surrounding the transit stops (fig. 243 & 244). The shophouse can provide the needs and services residents and visitors want and need in a variety of locations.

FIG. 243 Pearl District as seen from the US Bancorp Tower where medium and higher densities prevail and the shophouse could easily integrate within
<http://upload.wikimedia.org/wikipedia/en/3/38/Pearldistrict.jpg>

FIG. 244 Portions of the Pearl District where the shophouse could integrate itself to stimulate the streetscape while creating a more pedestrian-friendly experience
<http://www.portlandground.com/archives/2006/06/north_side_of_burnside_be_1.php>

Shophouses also function extremely well in areas of transition because the businesses that occupy the ground floor depend on high customer foot traffic. When shophouses fall between densities or commercial and residential areas, high amounts of passerby are an almost guarantee if the community (TOD) is walkable. Whether the shophouse links individual station to station or falls in-between stations as a building in the surrounding context, the shophouse is an extremely vital and strategic component that establishes pedestrian orientation in TOD to transpire. The performance and situational flexibility; wonderful human scale; and highly practical functionality inherent in the shophouse complement all walks of life (entrepreneurial and pedestrian) in the urban environment.

7.3 - URBAN FABRIC >

7.3.1 - Zoning >

The zoning districts established throughout Honolulu are governed by the City & County of Honolulu Department of Planning and Permitting (DPP) which determine the allowable uses that can occur on a given property. The City & County DPP website http://gis.hicentral.com displays color coded zoning parcels of land that denote areas such as R-5 (Residential), AMX-2 (Apartment Mixed-Use), B-2 (Business), BMX-3 (Business Mixed-Use), and I-1 (Industrial) which are only but a fraction of the various zoning types throughout Honolulu (fig. 245).

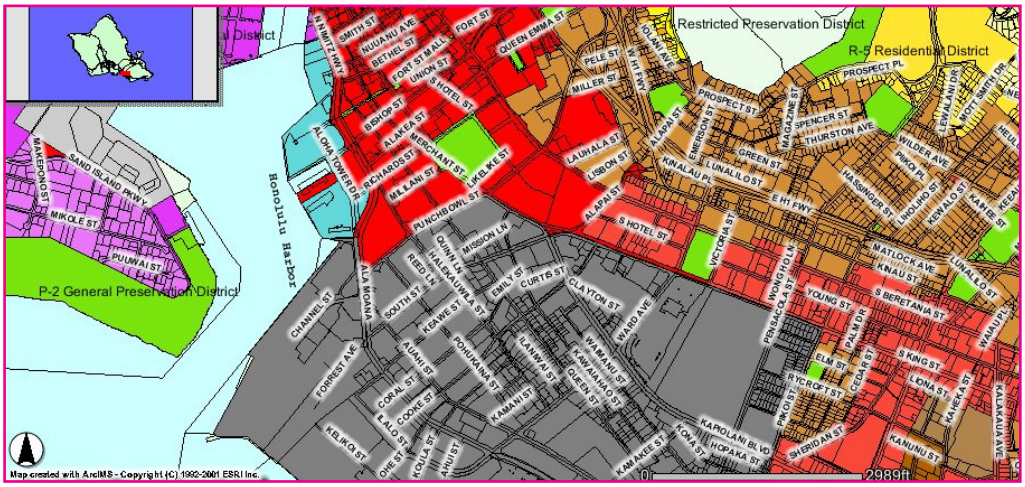


FIG. 245 Screen capture off the City & County of Honolulu DPP website displaying a variety of zoning types. The large gray mass is the Kakaako Community Development Special District, dark red is B-2 Community Business, pink is BMX-3 Community Business Mixed Use, brown is A-2 Medium Density Apartment, yellow is R-5 Residential, lavendar is I-3 Waterfront Industrial, blue is Aloha Tower State Jurisdiction, green is P-2 General Preservation <http://gis.hicentral.com/website/parcelzoning/viewer.htm>

Live-Work requires BMX-3 zoning due to the combination of residential and business activity on a single property. However, there aren't many areas throughout Honolulu that are zoned BMX-3 and the neighborhoods that are actually BMX-3 do not appear to be conducive toward the integration of live-work spaces. Mixed-use and multi-use developments including live-work structures are almost non-existent around Honolulu as the BMX-3 zoned areas only mix commercial with retail and office uses. It is rare to find a building that has commercial space at ground level and residential space up above and

that needs to change. Small business owners, “mom-and-pops”, and entrepreneurs need better, viable options to help them succeed. Even with the increasing amount of telecommuters and entrepreneurs nationwide, Honolulu is lacking adequate BMX-3 zoning. The current BMX-3 deficiency needs to change in order to encourage live-work developments such as the shophouse which can improve the urban fabric for neighborhoods across Honolulu.

FIG. 246 1700 block on King Street with 6 lanes of one-way traffic (65’ wide). Priority is definitely given to the automobile and not the pedestrian. High speed traffic and wide lane widths reduce walkability aspect for pedestrians.
<Tsutomi>

One of the underlying problems in trying to identify the areas that are zoned BMX-3 vs. B-2 is the ambiguous and contradictory urban form taken on by these BMX-3 and B-2 areas. For instance, neighborhoods that are properly zoned and better scaled to accommodate BMX-3 zoning are actually zoned B-2 and vice-versa. Take the area of the 1700 block on King Street (across Times Supermarket) (fig. 246) and compare it with both the Waialae Avenue 3400 block (Hawaii National Bank) (fig. 247) or 3500 block (across the Kaimuki Park) (fig. 248). The two Waialae Avenue parcels of land appear more sensible to have live-work spaces rather than the parcel on King Street, yet the majority of Waialae Avenue is zoned as B-2 and King St. as BMX-3.

FIG. 247 3400 block on Waialae Avenue with 5 lanes (2+3) of traffic (55’ wide). Priority is still given to the automobile, but in a reduced fashion. The street is narrower and pedestrian scale is enhanced compared to the King Street area
<Tsutomi>

FIG. 248 3500 block on Waialae Avenue with 7 lanes (3+4) of traffic (75’ wide). Street width is wider than 3400 block and priority is still given to the automobile, yet this city block is more pedestrian oriented than King. Lane widths are narrower and vehicular traffic is slower along this street than King Street
<Tsutomi>

The Waialae and King areas both contain their share of pros and cons toward accomodating live-work spaces, yet Waialae Avenue has the preferable human scale to encourage walkability, pedestrian-orientation, TND, TOD, and Smart Growth characteristics. Although the King neighborhood also encourages a number of the aforementioned characteristics, yet the scale of the Waialae neighborhood is more conducive and better suited toward shophouse development. The Waialae and King areas are currently inadequately zoned and should be rezoned to establish a more appropriate live-work community.

FIG. 249 Fashion gala about to take place at the Santee Village Lofts in the Fashion District (Downtown Los Angeles)
<http://www.santeevillage.com/lofts/photo-gallery.php>

FIG. 250 Tung Choi Street in Hong Kong where household aquarium life thrives throughout the various retailers
<Tsutomi>

The realization of creating enhanced live-work districts throughout Honolulu is possible by looking across the Pacific Ocean at places like Hong Kong or Los Angeles. These countries have districts for fashion and art (Downtown L.A.) (fig. 249); household aquariums and fishes (Tung Choi St. – H.K.) (fig. 250); and anything else people take interest in collecting, using, buying, or being a part of.

The densities between Los Angeles and Hong Kong are substantially different in comparison to Honolulu, but that shouldn't deter Honolulu from developing an assortment of unique districts that favor mixed-use and multi-use structures. The burgeoning wave of Chinatown bars and clubs along with the ever evolving Ward Entertainment Complex in Kakaako bustles on any given night of the week. And yet, the Chinatown and Ward neighborhoods have yet to fully realize their potential as the incorporation of additional residents would definitely enhance the neighborhood with added foot traffic and energy.

The introduction of additional small businesses, entrepreneurs, and residents – all of which are inherent to the shophouse – into areas such as Chinatown and Kakaako could further boost the vivacity for a number of neighborhoods in and around Honolulu. These specialized areas of activity can play off each other and be complementary zones where a diverse array of uses can appeal to Honoluluans both during the day and the night. The shophouse allows small business owners a chance to fulfill a public need or want while being able to capitalize off the customer.

A great example of a neighborhood that has a variety of complementary uses is Kapahulu. Kapahulu probably can't survive as a restaurant district like Tung Choi St. does in Hong Kong as an aquarium district. The reduced population and lower density of Honolulu significantly limits the success rate of specialized districts here in Hawaii. However, generating a diverse array of small businesses that can parallel and complement what already exists can help enliven a neighborhood like Kapahulu which combines an assortment of establishments that appeal to a vast demographic while still feeling quaint.

Certain businesses such as a sushi bar, smoothie shop, pet shop, surf shop, or shave ice store (all available along Kapahulu Avenue) possess an underlying ability to attract cross market demographics (young and older generations, mixed income levels, and both genders). These diverse businesses enable a community to better succeed by connecting people (fig. 251). Creating a well-rounded mix of ethnic restaurants and exceptional commercial spaces is what a neighborhood like Kapahulu does to increase its odds of improving business and market appeal.

FIG. 251 Waiola Bakery & Shave Ice on Kapahulu Avenue appeals to a wide range of people from grandparents to grandchildren and everyone in-between; various income levels; and ethnicities all have a reason to frequent a busines like Waiola's.
<Tsutomi>

There is no surefire solution that can be implemented to create a successful live-work neighborhood, but knowing your targeted demographic and providing the right mix of variety and diversity of commercial entities and living quarters is a sensible starting point. If done correctly, which is by no means an easy feat, Kapahulu or any other Main Streetesque community throughout Honolulu can improve the quality and charm of the neighborhood's character.

FIG. 252 Mango Season building at 2636 S. King Street in Moiliili is zoned BMX-3. However, the living and working spaces aren't integrated very well. Adhering to a more "shopkeeper" style architecture would enable the building to be more appealing. <Tsutomi>

Some of the main areas throughout Honolulu that are already zoned for BMX-3 are Keeaumoku (Kinau St. – Kona St.), Moiliili (Kahoaloha Ln. – Isenberg St.) (fig. 252), and Beretania/Young/King (King St. Exit – Alapai St.). Although these areas are zoned BMX-3, they rarely if at all contain live-work spaces. The buildings that are mixed-use or multi-use typically have a combination of office-retail or retail-residential (connected but not integrated with each other) so they don't resemble "shopkeeper" style architecture. These structures do not contain any spaces that incorporate living and working uses directly together to resemble a shophouse or loft style interior arrangement. The buildings merely have multiple uses that are in no way integrated with one another visually or spatially and that needs to change.

The innate ability of the shophouse to integrate living and working space together on a single property is unlike any other building currently existing in Honolulu. The inherent nature of the shophouse to accommodate a variety of functions while always embracing residential use is unrivaled. The flexibility of the shophouse is a major reason why the live-work space is such a compelling building type for a number of Honolulu neighborhoods.

7.3.2 - Form-Based Coding (FBC) >

If Waialae were to be rezoned as BMX-3 (instead of B-2) or regulated by Form-Based Coding (FBC), the commercial corridor could dramatically improve. By eliminating the existing proscriptive code system that is conventionally used in Honolulu, people will be able to live above the many shops, restaurants, and places of employment at ground level with less conflict. Empowering people to live closer to their places of work and play can help establish the live-work lifestyle to become a reality.

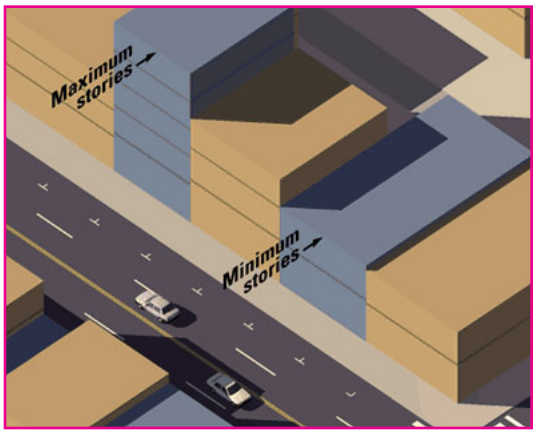


FIG. 253 Hypothetical street where FBC dictates minimum and maximum building heights so streetscape is interesting yet varied
<http://en.wikipedia.org/wiki/Image:FBC_BldgFormStandards2.gif>

FIG. 254 Hypothetical street scene futher detailed to resemble an actual streetscape according to FBC where building setbacks are uniform and nuilding heights are enforced
<http://en.wikipedia.org/wiki/Image:FBC_BldgFormStandards2.gif>

FBC according to the Form-Based Codes Institute (FBCI) is “a method of regulating development to achieve a specific urban form (fig. 253 & 254). Form-Based Codes create a predictable public realm by controlling physical form primarily, with a lesser focus on land use, through city or county regulations.” (http://www.formbasedcodes.org/definition.html) (fig. 28a & 28b). FBC is a prescriptive (state what is wanted) rather than proscriptive (what is not wanted) development tool which isn’t entirely foreign to Hawaii. Certain areas of Oahu are governed by design guidelines and special districts which are fairly similar to FBC, but FBC is a more rigid form of coding designation. The FBCI notes that “Form-Based Codes are drafted to achieve a community vision based on time-tested forms of urbanism. Ultimately, a Form-Based Code is a tool; the quality of development

outcomes is dependent on the quality and objectives of the community plan that a code implements." (http://www.formbasedcodes.org/definition.html).

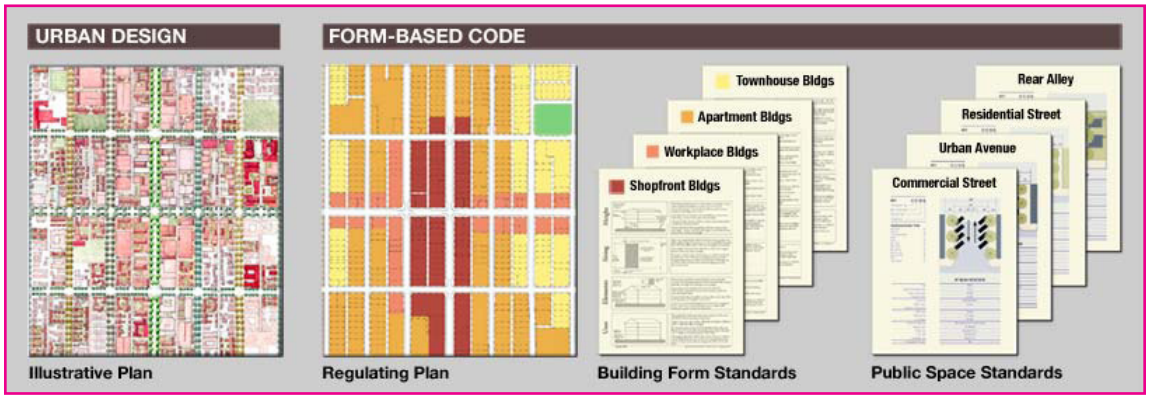


FIG. 255 Typical components of a Form-Based Code and the relationship of FBC to Urban Design
<http://upload.wikimedia.org/wikipedia/en/6/67/FBC_TypicalComponents.jpg>

FBC commonly include a Regulating Plan; a Public Space Standards, Building Form Standards, Administration, and Definitions (fig. 255). The Regulating Plan is a map of the regulated area designating the locations where different building form standards apply based on the community intentions regarding the physical character of the area being code (http://www.formbasedcodes.org/definition.html). The Building Form Standards are regulations controlling the configuration, features, and functions of buildings that define and shape the public realm (http://www.formbasedcodes.org/definition.html).The Public Space Standards are specifications for the elements within the public realm (http://www.formbasedcodes.org/definition.html). The Administration is a clearly defined application and project review process (http://www.formbasedcodes.org/definition.html). The Definitions are a glossary to ensure precise use of technical terms (http://www.formbasedcodes.org/definition.html). FBC can also sometimes include Architectural Standards, Landscaping Standards, Signage Standards, Environmental Resource Standards, and Annotation.

Some of the cities across the U.S. that have benefited from FBC are Arlington, VA (fig. 256 & 257); Lawrence, KS; Petaluma, CA; and Syracuse, NY. These cities have implemented FBC with positive results as the community has a larger voice in how they want their town to appear. Although FBC may take added coordination and time to develop between the various public and private entities, the results are often worth the extra process and labor toward the creation of a sensitive and functional land use plan that can improve a city.

FIG. 256 Existing buildings along the 3.5 mile auto-oriented corridor Columbia Pike (Arlington, VA) pre-FBC
<http://www.urban-advantage.com/projects.html>

FIG. 257 Post-FBC simulation of Columbia Pike where more attention is paid to form and less on building style. FBC attributes require building fronts to face streets, accessibility from sidewalks, minimum and maximum window coverage, zero-building setback.
<http://www.urban-advantage.com/projects.html>

“Form-based codes address the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks. The regulations and standards in form-based codes, presented in both diagrams and words, are keyed to a regulating plan that designates the appropriate form and scale (and therefore, character) of development rather than only distinctions in land-use types. This is in contrast to conventional zoning’s focus on the segregation of land-use types, permissible property uses, and the control of development intensity through simple numerical parameters (e.g., FAR, dwellings per acre, height limits, setbacks, parking ratios). Not to be confused with design guidelines or general statements of policy, form-based codes are regulatory, not advisory.” (http://www.formbasedcodes.org /definition.html).

The shophouse may need its own zoning category which could be called SH-1. SH-1 could resemble BMX-3 but really emphasize the live-work relationship. SH-1 or the shophouse could fall under the category of FBC to address a more cohesive, yet regulated plan that could allow live-work spaces like the shophouse to prosper. Implementing FBC for certain Honolulu districts could rid the existing proscriptive zoning parameters that limit residential uses above working uses as long as the buildings abide by the regulatory land use plan that is more concerned with form and less about land-use.

Forcing the Honolulu shophouse to include columns that distinguish the five-foot way is extremely risky because the City & County of Honolulu rarely even allows commercial establishments to have roof awnings that protrude over public sidewalks due to issues of liability. The dilemma lies in the fact that a part of the private landowner's building interferes with city space. For example, if a structural member of the awning falls on a pedestrian walking below the sheltering device, the city may be held liable for the injury that is incurred as a result of being hurt on or by city property.

Nonetheless, the integration of columns will be incorporated in the Honolulu shophouse model because it provides shade, shelter, and a wonderful sense of enclosure for sidewalks throughout Honolulu. The columns remain a highly valid symbol toward creating identity. Honolulu needs to devise some sort of code revision that allows Main Street buildings and shophouses to actually provide shelter (fig. 258 & 259). Honolu-

FIG. 258 Pre-FBC street in Kendall, Florida shows wide sun-drenched streets that are unattractive to pedestrians in the sweltering climate
<http://www.urban-advantage.com/projects.html>

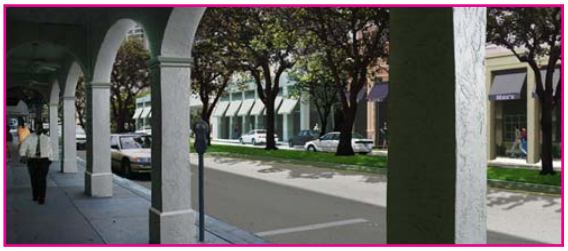


FIG. 259 Post-FBC simulation on same street in Kendall, Florida shows arcaded street with shade, shelter, enclosure, and enhanced identity. Densifying the urban avenue can result in a revitalized neighborhood that is not only appealing to pedestrians but also the entire community.
<http://www.urban-advantage.com/projects.html>

lu's harsh sunlight, passing showers and random downpours need to be combated in order to keep pedestrians dry. What the exact type of shelter that is to be provided remains uncertain and open for interpretation.

According to TDA, live-work can be the poster child for form based coding (http://www.live-work.com/about_tda/brochures/tda_code.pdf, 13) and its impact on the public realm. This type of development regulation translates to the specifying of urban form, the massing, and the detailing of buildings while leaving what goes on inside of the buildings (within reason) up to the market (http://www.live-work.com/about_ tda/ brochures/tda_ code.pdf, 13). The live-work atmosphere can further increase foot-traffic to the Waialae community and other B-2 zoned districts — and for the matter other BMX-3 zones as well.

A fundamental concern that is to be remembered when dealing with form based coding is that you don't want all the buildings to appear exactly the same nor completely different. A healthy balance of similarity and contrast can go a long way in establishing a well-functioning neighborhood that portrays a convincing identity.

7.3.3 - Enhance Neighborhood Life >

The convenience of living near a city's attractions while being able to work and play according to the lifestyle one desires can help inspire a better sense of community in which residents support local businesses (http://www.uli.org/AM/Template.cfm?section=July_ August1&template=/ MembersOnly.cfm&ContentID=100059) (fig.260). The transformation of communities that are alive for eight hours into active communities that span up to eighteen hours can be realized with the implementation of the shophouse as a form of urban infill or new small-scale development (fig.261).

FIG. 260 A locally run rubber stamp shop in Ipoh, Malaysia where time seems to have stood still over the decades
<http://www.flickr.com/photos/shwechen/426777975/>

FIG. 261 Street in Joo Chiat neighborhood bustling with nightlife where people come and go into the night
<http://www.flickr.com/photos/23231764@N06/2619395767/>

There are critics against New Urbanism who argue communities that adhere to New Urbanist ideals are too utopian. The critics note that everything from the meticulously maintained streetscapes to the buildings' color selection appearing overly coordinated is almost surreal and contrived. Further criticism of New Urbanism and TND is that the movement is almost too nostalgic – possibly of a time period that didn't even exist (http://en.wikipedia .org/wiki/Traditional_neighborhood_design). Another inconsistency is that followers of the movement are believed to push aesthetics over practicality, belittling sound urban planning principles to dogma (http://en.wikipedia.org/wiki/Traditional_neighborhood _design).

Nonetheless, every town and neighborhood has to find a balance between the artificial shaping and the natural evolution of its urban fabric. For the most part, the underlying philosophy of New Urbanism is fundamentally sound and sensible. The premise of the movement is to create a more responsible and humane community in every aspect. Whether it be creating enduring neighborhoods, making urbanism legal again, making connections a priority, celebrating shared spaces, achieving sustainability from building to region, to reclaiming urban places once thought lost (http://www.cnu.org/intro_to_new_urbanism); New Urbanism is an urban design movement that can form or reform a neighborhood for the better. More importantly, the feasible and theoretical concepts of New Urbanism offer alternatives that can refine the character of a neighborhood.

The five-foot way in Singapore is an immensely vital shophouse characteristic that needs to be adopted by the Honolulu live-work model in some form or fashion. The implementation of this highly sensible architectural element or some sort of roof overhang is absolutely essential since our weather is quite similar to Singapore and Malaysia. The prevalence of the harsh sunlight and frequent downpours in SE Asia as well as Honolulu create a concern that needs to be addressed in order to promote pedestrianism. The practicality of a shophouse providing shelter for walkways in Honolulu is extremely logical for pedestrians and commercial establishments. Both parties will mutually prevail because, firstly, the pedestrian remains dry and comfortable while patronizing businesses; secondly, the shops are able to maintain a steady amount of foot traffic regardless of the unpredictable nature of weather here in the Hawaiian Islands. Whether the climate is blazing hot or thunder and rain, customers will be able to stay dry and comfortable while trying to get to their destination (fig.262).

FIG. 262 Wet foreground and dry five-foot way in background <http://www.flickr.com/photos/mere-lyok/2817244271/>

The introduction of a form of pedestrian shelter can also provide an active streetscape for Honolulu similar to what it does for SE Asian countries. The covered space in Honolulu can function as a place to shop, chitchat, eat, and socialize while generating a multi-faceted identity (fig.263). Honolulu must initiate a shophouse prototype that is responsive to the island climate and lifestyle that speaks of the diverse cultures and subcultures of this urban city.

FIG. 263 Five-foot way dining in the Joo Chiat neighborhood where diners and pedestrians intermingle (Singapore)
<http://www.flickr.com/photos/photosubscribe/2476692868/>

The transformation of inadequately zoned B-2 neighborhoods into a BMX-3 or SH-1 type zone can rebirth a community in becoming a distinguished and renowned focal point. Honolulu would be more susceptible to splendid restaurant and dining havens, entertainment hubs, and nightlife meccas if certain neighborhoods throughout Honolulu were able alter itself. The first step toward that improvement would be to adopt a new BMX-3 or SH-1 zoning type that also permits a five-foot way like space.

The shophouses of Honolulu also need to incorporate a well designed rear court and alleyway system as rear access and service is essential to the operation of the living and working uses occuring within the shophouse. The rear alleyway should also encourage communication and dialogue among neighbors similar to in SE Asia where alleys serve as convivial spaces for residents to socialize (fig.264).

FIG. 264 Rear alleyway where residents can relax with one another out of view from the general public (Singapore)
<http://www.dwell.com/homes/renovations/2842226.html>

By knowing Americans will always be attached to their automobile compared to people in SE Asia who are less likely to own an automobile, designing alleyway spaces beforehand to allow automobiles and people to coexist will assure an increasingly useful alley. Live-workers can utilize their rear alleys for uses other than only driving an automobile in and out which helps to supply additional open space that is outside and semi-secluded from the general public. The implementation of a zoning or code restriction for the Honolulu shophouses to limit each household to one automobile or one automobile parking stall for x-amount of residential/commercial space is worth pursuing. Pushing people away from the use of an automobile in favor of walking, bicycling, or utilizing alternative means of transportation is beneficial for a variety of reasons and needs to be further encouraged.

FIG. 265 Strip mall in Hollis, Queens (New York) where automobiles interact with pedestrians as the buildings are setback from the street for front lot parking
<http://www.flickr.com/photos/allwaysny/2290303170/>

FIG. 266 Rear alleyway system for shophouses in Singapore enables pedestrians within the five-foot way to steer clear of automobiles as there is no need for auto-pedestrian interaction
<http://www.flickr.com/photos/marvjfm/2410525778/>

The rear alley access design allows shophouses to discriminate against the automobile while giving more emphasis to the pedestrian which is a rarity in Honolulu. By making it available for shophouse owners to park their automobile in the rear, the front facades of a shophouse become a continuous wall of visual delight uninterrupted by a driveway or garage. Preventing automobile and pedestrian interaction ultimately frees up valuable commercial street-frontage that can instead be better exploited by small business owners to target the customer (fig.265 & 266).

Although many buildings in Honolulu are not designed for rear access, places like Moiliili, Waialae and Kapahulu do have side and rear access for automobiles. The side and rear access points are further evidence as to why the shophouse can be a highly adaptable live-work space well-suited for these specific neighborhoods. The rear alley shouldn't resort to only being a service alley for automobiles; instead the alley should be viewed as a semi-private corridor that is for the residents to enjoy. The Honolulu shophouse must strive for a rear alley that is full of life similar to the streetfront area but on a more intimate setting for the actual residents to live and converse with each other. The importance of the rear court and alley is that it provides outdoor space for the shophouse occupants who need an open space of their own because these buildings are mainly in urban areas that lack open public space.

The rear court will certainly be utilized in the Honolulu archetype as this space serves as the pseudo-backyard for the live-work occupants while also maintaining the true form of the SE Asian shophouse and the rear access alleyway. The importance of open yard space is a top priority for many Hawaii residents which is why the rear court must be implemented and integrated in a sensible manner (fig.267). The rearcourt must take advantage of the local climate and predominantly mild year-round weather pattern. These back spaces can also serve as mini-gardens or fish ponds – there are infinite possibilities that exist for the Honolulu shophouse to improve the urban fabric and live-work lifestyle.

FIG. 267 Rear court is separated from the alley by a wall and doorway to ensure privacy when closed. Rear court provides an open air space that also allows daylight and ventilation into the rear spaces of the shophouse
<http://www.flickr.com/photos/ericfirley/517338704/>

7.3.4 - Sense of Place via Building Height-to-Street Width Ratio >

Sense of place, according to www.dpz.com, is a highly desirable but elusive attribute of urbanism. Sense of place is intrinsically linked to the design of a streetscape where the mindful assemblage of mutually supportive components come together to create a distinct ambiance. The spatial definition and feeling of enclosure demonstrated by suitable building height-to-street width ratio is fundamental toward sculpting a memorable place (fig. 268 & 269).

FIG. 268 Sense of place is heightened regardless of whether or not the street is filled with smaller buildings (fig. 268) or larger buildings (fig. 269). The fundamental attribute is an appropriate building height-to-street width ratio which provides a desirable setting
<http://www.greatstreetsstlouis.net/content/view/19/45/>

FIG. 269 A streetscape composed of larger buildings that maintain a strong sense of place. The height-to-width ratio remains suitable toward establishing an attractive streetscape
<http://www.greatstreetsstlouis.net/content/view/19/45/>

Honolulu will adhere to the two to three story shophouse building heights as it seems fitting to the urban scale of the city, pedestrian, and building user as well. The two to three level structures maintain a suitable density that can free up land for additional shophouses to fit on a city block and strategically located open public space. The upper floors of a shophouse correspond to the street by providing an appropriate sense of enclosure that isn't as daunting as a midrise or a highrise structure (fig. 270). The minimal shadows casted by the shophouse allows a tremendous amount of daylight to reach the ground. The penetration of light onto the streetscape and facing

FIG. 270 A streetscape comparison of shophouse on left and midrise structure on right
<http://www.flickr.com/photos/benlyons/141971145>

buildings allows a more stimulating and livable environment – something Honolulu could better exploit.

The urban fabric of Honolulu generates only a handful of streets that establish a wonderful sense of place. These streets that illustrate a desirable setting are rare, but do indeed exist. The vast majority of these successful streets place added emphasis on the pedestrian first and the automobile second by establishing zero building setbacks (fig. 271). Giving priority to the pedestrian translates into a street that is aligned in a coherent manner while not too vast and overwhelming.

FIG. 271 Top of Waialae Avenue where added attention is placed on the pedestrian experience
<Tsutomi>

The proportion of spatial enclosure when walking down a street should feel like a comfortable outdoor room. The facades of the buildings on both sides of the street represent walls while the open sky above signifies a ceiling. DPZ.com states that the defined streetscape setting should not exceed a certain height-to-width ratio; spatial enclosure becomes more substantial toward establishing an improved sense of place if the width of a streetscape exhibits more street wall than sky.

In addition, DPZ.com notes that with an increased sense of place come higher real estate values. The appreciation of property has both a positive and negative effect as everyone would like to own property, but not everyone can afford to. Neighborhoods that demonstrate a strong sense of place shouldn't be reserved for only the affluent; the less fortunate should also have the opportunity to experience life in a desirable community.

Live-work spaces like the shophouse serve as great placemaking characteristics for a neighborhood. The scale of a shophouse and the uses that preside within help to form a streetscape that is comforting for people to experience on foot. A common denominator shared among the bulk of these streets, while not mandatory, is the propensity of older, enduring commercial use buildings. Buildings that have some history tend to give a more detailed look into the past and present. The juxtaposition of buildings maturing side-by-side displays the evolution of a streetscape while impacting sense of place.

Many of the streets and neighborhoods that embody a Honolulu sense of place are the same streets and neighborhoods that could use further enhancement. These prominent neighborhoods have the most to loose, yet the most to gain as the plethora of small businesses can either truly thrive or fail miserably. The main barrier that is slowing the progress of these communities toward becoming a more desirable location is the current B-2 zoning that doesn't allow a mixing of uses. Commercial streets like Liliha Street, Queen Street, Kapahulu Avenue, and Waialae Avenue could make tremendous progress by being rezoned from B-2 to BMX-3. Reshaping B-2 zones to become mixed-use and multi-use districts will enable live-work structures to proliferate. The inclusion of shophouses can initiate the change streets require in order to enhance their identity (fig. 272 & 273).

FIG. 272 Existing conditions along Liliha Avenue where buildings are not sidewalk oriented nor mixed or multi-use
<http://www.urban-advantage.com/projects.html>

FIG. 273 Revised simulation of Liliha Avenue where buildings are pushed to their property line with zero setback to create pedestrian oriented streetscapes that have more appropriate building height-to-street width ratio
<http://www.urban-advantage.com/projects.html>

Communities that are successful at conveying a well-defined setting are also easier to improve upon. They already have a good streetscape framework which isn't coincidental. These very streets and neighborhoods have the most potential for shophouses to be absorbed into the urban fabric. All the aforementioned commercial strips are ripe for live-work development. Neighborhoods such as Kakaako, Kapahulu, Liliha, and Waialae all have the sufficient density and appropriate building height-to-street width ratio that can allow the shophouse to excel.

The abovementioned Honolulu neighborhoods have a building height-to-street width ratio of 1:1 (fig. 274 & 275), 1:2 (fig. 276 & 277) or 1:4 (fig. 278 & 279) which is the ideal scale for low urban streetscapes. The ratios translate into a 60 foot wide street corridor that can have a range of buildings as low as 20 feet to as tall as 60 feet in height (one to five stories) (http://www.greatstreetsstlouis.net/content/view/44/217/). These lower ratio streets lend themselves toward making the pedestrian feel more comfortable and secure.

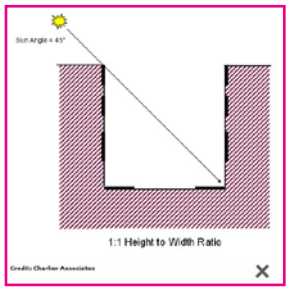


FIG. 274 1:1 height-to-width ratio
<http://www.greatstreetsstlouis.net/content/view/44/217/>

FIG. 275 1:1 height-to-width ratio establishes a strong sense of place
<http://www.greatstreetsstlouis.net/content/view/44/217/>

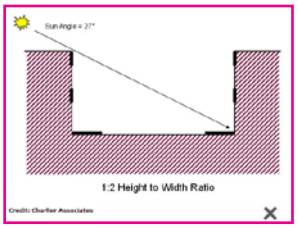


FIG. 276 1:2 height-to-width ratio
<http://www.greatstreetsstlouis.net/content/view/44/217/>

FIG. 277 1:3 height-to-width ratio establishes a strong sense of place
<http://www.greatstreetsstlouis.net/content/view/44/217/>

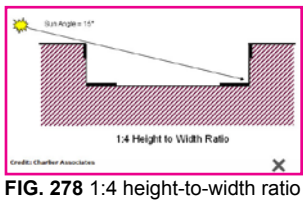


FIG. 278 1:4 height-to-width ratio
<http://www.greatstreetsstlouis.net/content/view/44/217/>

FIG. 279 1:4 height-to-width ratio establishes a sense of place, but not as strong as 1:1 and 1:4
<http://www.greatstreetsstlouis.net/content/view/44/217/>

Additional height-to-width ratios that lend themselves toward a stronger sense of place take on a more vertical approach. Ratios like 3:1 (fig. 280 & 281), 2:1, and 1.5:1 have great placemaking ability, but are often too tall and slender to include shophouses as the live-work space is primarily three levels or less.

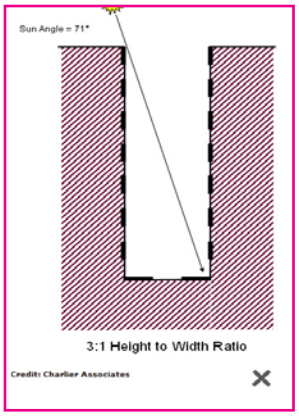


FIG. 280 3:1 height-to-width ratio
<http://www.greatstreetsstlouis.net/content/view/44/217/>

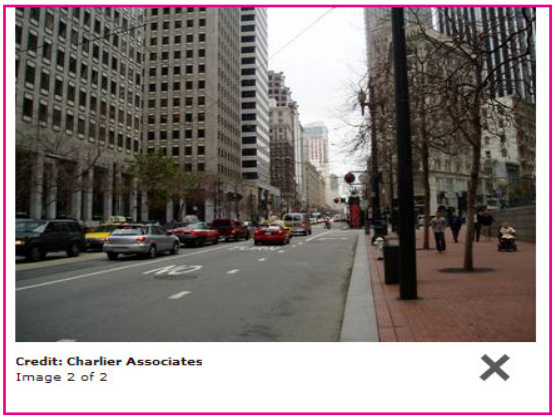


FIG. 281 3:1 height-to-width ratio establishes a sense of place
<http://www.greatstreetsstlouis.net/content/view/44/217/>

Commercial streets in Honolulu that convey a distinct sense of place with height-to-width ratios of 1:1 to 1:4 are Liliha Street in Liliha; Maunakea Street, Smith Street, and Hotel Street in Chinatown; Queen Street in Kakaako (fig. 282); Keeaumoku Street, King Street, Young Street, and Beretania Street in Honolulu; Waialae Avenue in Kaimuki (fig. 283); and Kapahulu Avenue in Kapahulu. Alakea Street and Bishop Street contain the more vertical approach as these streets are in Downtown. Alakea and Bishop have ratios that are above the 3:1 mark and therefore rank high in attaining sense of place, but not very conducive for shophouses along most of the street unless the live-work spaces are integrated within the lower levels of a highrise's facade.

FIG. 282 Combination of 1:2 & 1:3 height-to-width ratio depending on whether buildings are setback or zero-setback (Queen Street-Kakaako)
<Tsutomi>

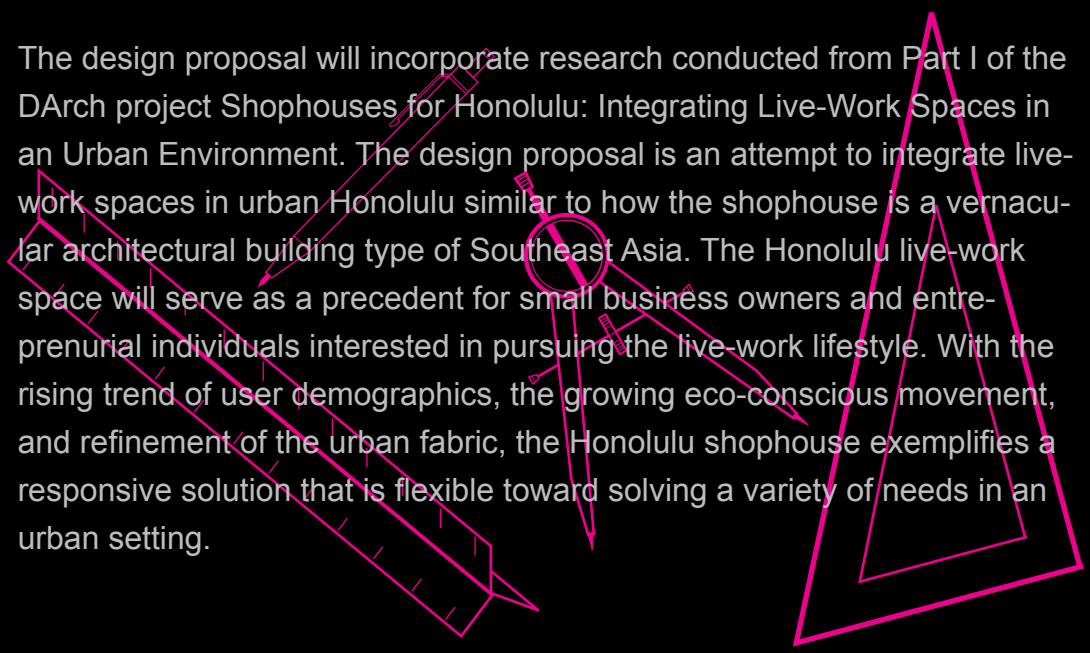
FIG. 283 Combination of 1:2 & 1:3 height-to-width ratio (Waialae Avenue-Kaimuki)
<Tsutomi>

All of these streets are composed of zero lot setbacks which contain a multitude of business and commercial buildings. The lack of building setback from the public sidewalk creates an effective pedestrian oriented streetscape that epitomizes each urban neighborhood's distinct sense of place. Chinatown, Kakaako, Kapahulu, Liliha, and Waialae all contain their share of similarities, yet each neighborhood is unique and unlike the other.

Therefore, the future success of live-work depends on the City & County of Honolulu's zoning regulations of areas like Kakaako, Kapahulu, Liliha, and Waialae. Multi-use and mixed-use developments, Main Street buildings, and live-work spaces like the shophouse are all at the mercy of if and when B-2 areas will be rezoned as BMX-3. Allowing a rezoning of specific B-2 areas into BMX-3; creating form based coding; or generating design guidelines that dictate improvements can transform the urban fabric of Honolulu into a rich landscape that places greater emphasis on the sidewalk experience. In addition to rezoning, establishing the appropriate building setbacks that create desirable height-to-width ratios will help to enhance a stronger sense of place throughout Honolulu where its people and cultures can be better exemplified.

SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT

The design proposal will incorporate research conducted from Part I of the DArch project Shophouses for Honolulu: Integrating Live-Work Spaces in an Urban Environment. The design proposal is an attempt to integrate live-work spaces in urban Honolulu similar to how the shophouse is a vernacular architectural building type of Southeast Asia. The Honolulu live-work space will serve as a precedent for small business owners and entrepreneurial individuals interested in pursuing the live-work lifestyle. With the rising trend of user demographics, the growing eco-conscious movement, and refinement of the urban fabric, the Honolulu shophouse exemplifies a responsive solution that is flexible toward solving a variety of needs in an urban setting.



PART II: DESIGN PROPOSAL

SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT

+ Manabu and Fumiyo Asaoka, owners of Mana Bu's, a food establishment specializing in mochi and other Japanese treats (http://www.tastyisland.net/images/manabu_fumiyo_asaoka.jpg)

VALIDATING THE NEED FOR THE SHOPHOUSE IN HONOLULU

8.0

PART 2: DESIGN PROPOSAL

8.0 CLIENT PROFILE - 1 >

Five major groups:

1-Creative Class
2-Small Businesses
3-Entrepreneurs
4-Young Professionals
5-Empty Nesters/Baby Boomers

Client Selection: Young professional married couple (no children) in pursuit of being their own boss with occupations in the Creative Arts

FIG. 1

Male
-38 years old
-Architect (sole practitioner)
-Full service architectural firm specializing in:
-Residential Design
-Retail Design
-Commercial Design

FIG. 2

Female
-36 years old
-Graphic Artist (freelance)
-Design studio specializing in:
-Identity
-Internet
-Motion
-Photo
-Print

FIG. 1
<www.midweek.com/.../movers_article/index.html>

FIG. 2
<http://www.hawaii.edu/aging/staffr_files/Kapuaola.jpg>

8.0 CLIENT PROFILE - 2 >

Five major groups:

1-Creative Class
2-Small Businesses
3-Entrepreneurs
4-Young Professionals
5-Empty Nesters/Baby Boomers

Client Selection - 2: Young married couple (no children) in pursuit of being their own boss as small business owners

FIG. 3

Male
-42 years old
-Chef and business owner
-Business Name:
-Mana Bu's:
-Okazu
-Musubi
-Desserts

FIG. 4

Female
-37 years old
-Chef and business owner
-Business Name:
-Mana Bu's:
-Okazu
-Musubi
-Desserts

FIG. 3
<http://www.tastyisland.net/images/manabu_fumiyo_asaoka.jpg>

FIG. 4
<http://www.tastyisland.net/images/manabu_fumiyo_asaoka.jpg>

SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT

+ Abstract bubble diagram of the first floor working space (Tsutomi)

VALIDATING THE NEED FOR THE SHOPHOUSE IN HONOLULU

9.0

PART 2: DESIGN PROPOSAL

9.0 PROGRAMMING >

The focus of the design is to provide a live-work space that is flexible toward accomodating the changing needs of its two primary occupants: A- Male/husband and Female/wife (small business owners); B- Male/husband (architect) and Female/wife (graphic artist). Unlike working at a traditional office space or living in a strictly residential home, the Honolulu shophouse will integrate both living and working uses to be combined on a single property. The shophouse design is an attempt to create a space that enables people – entrepreneurial individuals and small business owners – the ability to pursue a more efficient live-work lifestyle. The program requirements for this shophouse include a variety of flexible open spaces spread along three floor levels:

COUPLE-A (small business owners):

First Level :	Second Level:	Third Level:
1- Work Space	1- Covered Deck	1- Covered Deck
2- Airwell	2- Living	2- Master Bedroom
3- Bathroom	3- Dining	3- Library
4- Patio	4- Airwell	4- Den
5-Garage	5- Kitchen	5- Airwell
	6- Bathroom	6- Atrium
		7- Bathroom
		8- Bedroom

COUPLE-B (architect and graphic artist):

First Level :	Second Level:	Third Level:
1- Work Space	1- Covered Deck	1- Covered Deck
2- Airwell	2- Living	2- Master Bedroom
3- Bathroom	3- Dining	3- Library
4- Garage	4- Airwell	4- Den
5-Workshop	5- Kitchen	5- Airwell
	6- Bathroom	6- Atrium
		7- Bathroom
		8- Bedroom

First Level - Work Space >

Model-A Programming:

1- Work Space >>
2- Airwell >>
3- Bathroom >>
4- Patio >>
5- Garage >>

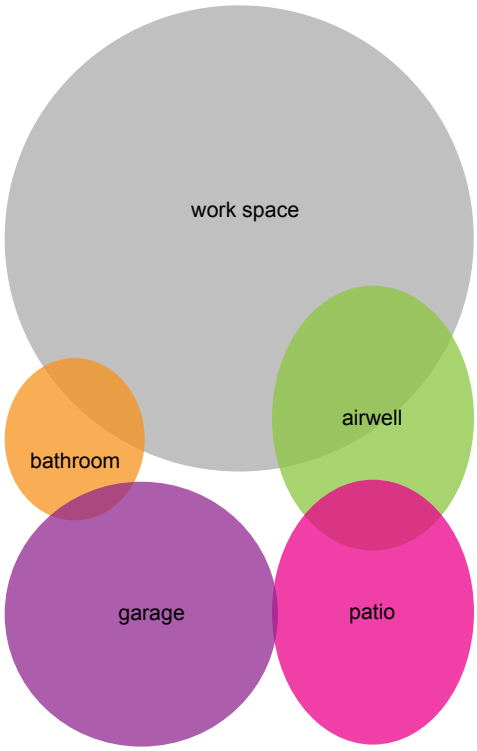


FIG. 5a Bubble Diagram - First Level
<Tsutomi>

Model-B Programming:

1- Work Space >>
2- Airwell >>
3- Bathroom >>
4- Garage >>
5- Workshop >>

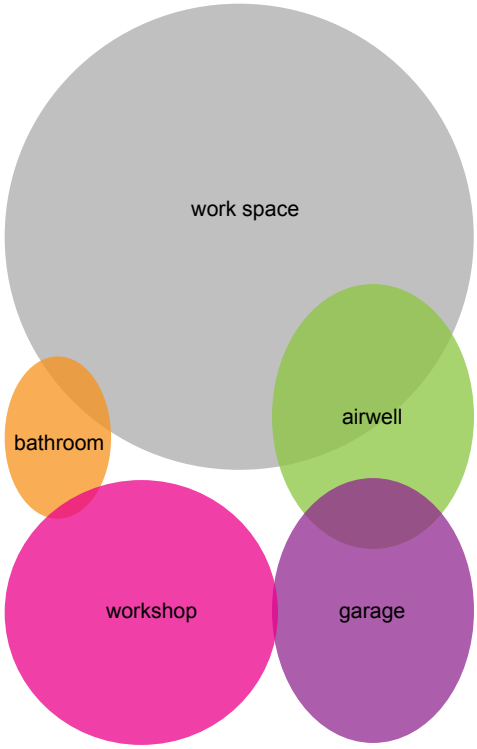


FIG. 5b Bubble Diagram - First Level
<Tsutomi>

FIG. 6 Vertical Breakdown of Space
<Tsutomi>

Second Level - Live Space >

Model-A Programming:

1- Covered Deck >>
2 -Living >>
3- Dining >>
4- Airwell >>
5- Kitchen >>
6- Bathroom >>

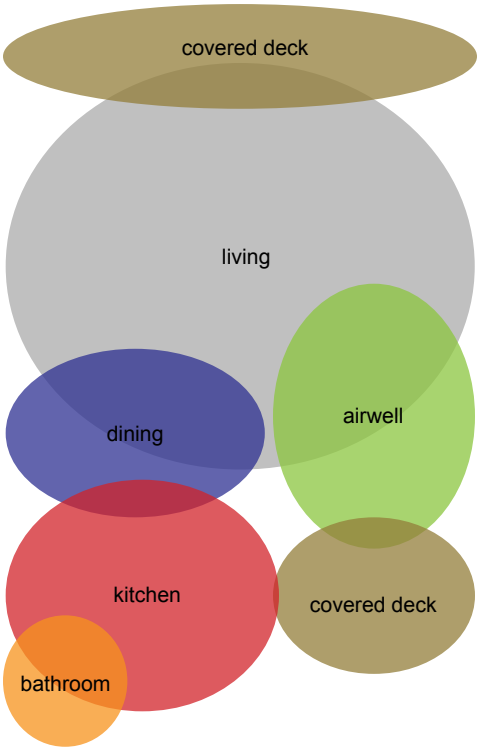


FIG. 7a Bubble Diagram - Second Level
<Tsutomi>

Model-B Programming:

1- Covered Deck >>
2 -Living >>
3- Dining >>
4- Airwell >>
5- Kitchen >>
6- Bathroom >>

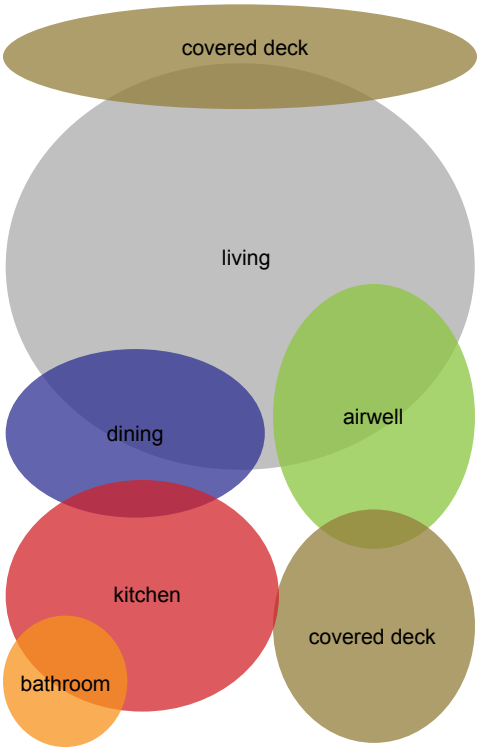


FIG. 7b Bubble Diagram - Second Level
<Tsutomi>

FIG. 8 Vertical Breakdown of Space
<Tsutomi>

Third Level - Live Space >

Model-A Programming:

1- Covered Deck >>
2 -Master Bedroom >>
3- Library >>
4- Den >>
5- Airwell >>
6- Atrium >>
7- Bathroom >>
8- Bedroom >>

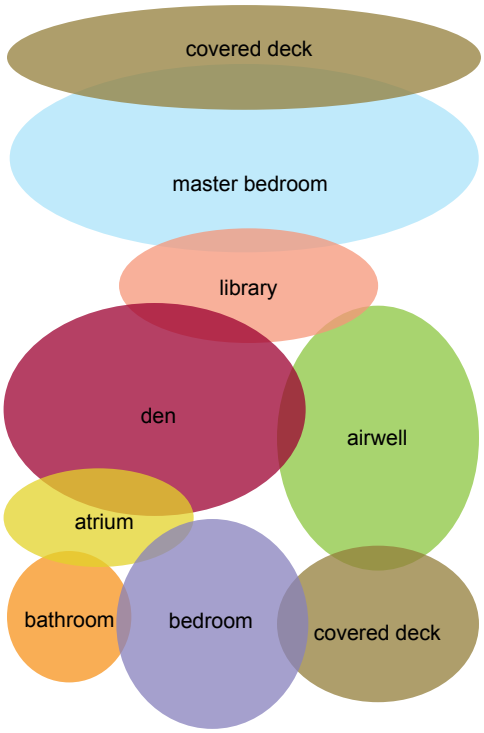


FIG. 9a Bubble Diagram - Third Level
<Tsutomi>

Model-B Programming:

1- Covered Deck >>
2 -Master Bedroom >>
3- Library >>
4- Den >>
5- Airwell >>
6- Atrium >>
7- Bathroom >>
8- Bedroom >>

FIG. 9b Bubble Diagram - Third Level
<Tsutomi>

FIG. 10 Vertical Breakdown of Space
<Tsutomi>

9.1 OPERATIONS >

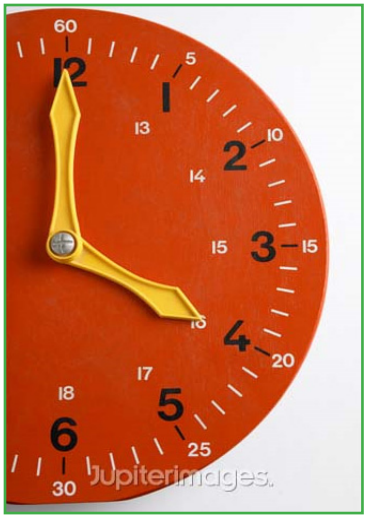


FIG. 11
<http://www.jupiterimages.com/popup2.aspx?navigationsubtype=itemdetails&itemID=24307513>

The Honolulu shophouse will be located along a stretch of Queen Street in Kakaako, Honolulu between Ward Avenue and Cooke Street. The potential possibilities of shophouse development can extend beyond Ward Avenue and Cooke Street to encompass a wider expanse up to Kamakee Street (beyond Ward) and South Street (beyond Cooke). The integration of shophouses as a transformation to the current light industrial zone will help spark the improvement of Kakaako to become a world class mixed-use district.

Queen Street currently serves as an underutilized traffic corridor that directly connects the Ala Moana and Ward neighborhoods to Downtown Honolulu. The location of a shophouse development along Queen Street will enable live-workers, their customer base, and the residents of Kakaako to be within a five to ten minute walk of two proposed transit stations and actually between the two transit stations. If redeveloped, Queen Street will have the opportunity to transform Central Kakaako into a more pedestrian and bicycle friendly multi-use corridor that complements the transit system route located just a few city blocks to the south.

FIG. 12 Location of shophouse development along Queen Street that would stretch for a couple city blocks
<Tsutomi>

The typical business hours of the shophouse will be from 8:00 am - 6:00 pm Monday-Friday and closed on the weekends. However, since the shophouse is a live-work space, business hours can and will vary to open earlier in the morning or later into the night and on the weekends if need be. Although the primary business hours are from 8:00 am - 6:00 pm, the husband and wife graphic design studio will be flexible in order to accomodate the various needs of each client. Walk-in foot traffic will be permissible and encouraged as the prospect of a potential job is always welcome.

With a vast spectrum of shophouse tenants, Queen Street can become a more lively and energetic streetscape during both the daylight and evening hours. Besides a graphic artist studio, architects, fashion designers, furniture designers, restaurateurs, hair stylists, real estate agents, dentists, massage therapists, psychologists, lawyers, retailers, and any other entrepreneurial individual could call Queen Street home and work. The diverse mixture of small businesses with various operating hours can help promote pedestrian foot traffic to occur at times beyond the typical eight to nine hour work day and instead into the late evening encouraging the live-work-play concept to take shape.

Depending on how frequent the “open houses”, “art walks”, “festivals, parties, premieres and get-togethers” arise, Queen Street could further enhance life in Central Kakaako and urban Honolulu. Allowing the public to witness and experience what the shophouse occupants and their independent locally run businesses have to offer with such diverse forms of merchandise and service can help generate a dynamic identity for Queen Street to embrace.

9.2 FUNCTIONALITY >

9.2.1 First Floor Level >

The first floor level will be comprised of work space broken down into nine areas as follows:

Model-A Programming:

1- Work Space >>
2- Airwell >>
3- Bathroom >>
4- Patio >>
5- Garage >>

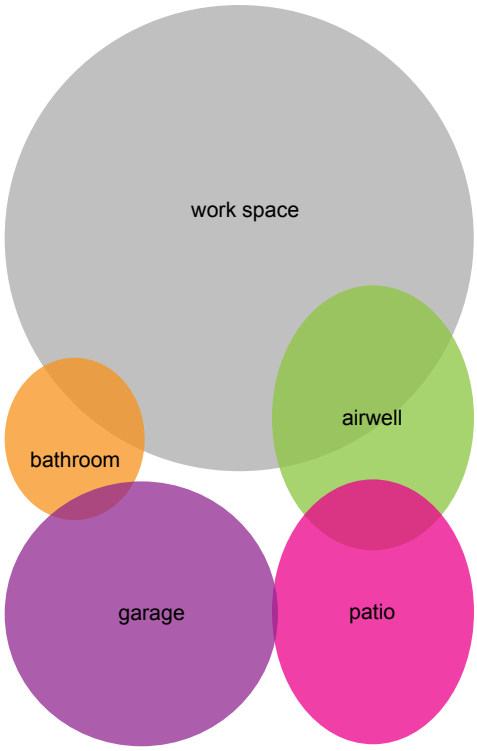


FIG. 13 Bubble Diagram - First Level
<Tsutomi>

Work Space >>

The work space on the ground level fronting the street will be able to accommodate a variety of uses ranging from an office to a sales floor to a cafe. The openness of the floor plan allows the shophouse owner to run and operate a diverse array of work types. Partitions can be built in to better divide the work space into the necessary areas required by the occupant.

Airwell >>

The airwell will be closely integrated and highly visible from its surrounding spaces to blend the indoor with the outdoor. Emphasis will be placed on the airwell as the glue that bonds the indoor and the outdoor throughout the shophouse. Certain spaces bordering the shophouse may be completely open to the airwell with no barrier or partially open or closed to the airwell depending on whether the movable barriers are left open or closed.

Bathroom >>

The bathroom will be segregated to its own individual space for obvious privacy issues. The bathroom will be located at the rear of the work space directly adjacent to the garage (Model-A).

Patio >>

The patio is broken into two spaces that can be combined into a singular space. The patio can be used as an outdoor lounge or dining area for overflow customers should the shophouse be an eating establishment. The patio could also be a work area or storage space.

One-Car Garage >>

The one-car garage will be wide enough for a single automobile with a depth of one and one-half car lengths to accomodate bicycles, mopeds, motorcycles, or additional means of transportation. There will be a movable barrier between the garage and patio space as these two areas will be able to intermix with one another. The garage, like the patio will have an overhead door to provide privacy and security from the rear alley, yet natural ventilation when desired depending on open or closed position of the doors.

9.2 Functionality >

9.2.2 Second Floor Level >

The second floor level will be comprised of live space broken down into seven areas as follows:

Model-A Programming:

1- Covered Deck >>
2 -Living >>
3- Dining >>
4- Airwell >>
5- Kitchen >>
6- Bathroom >>

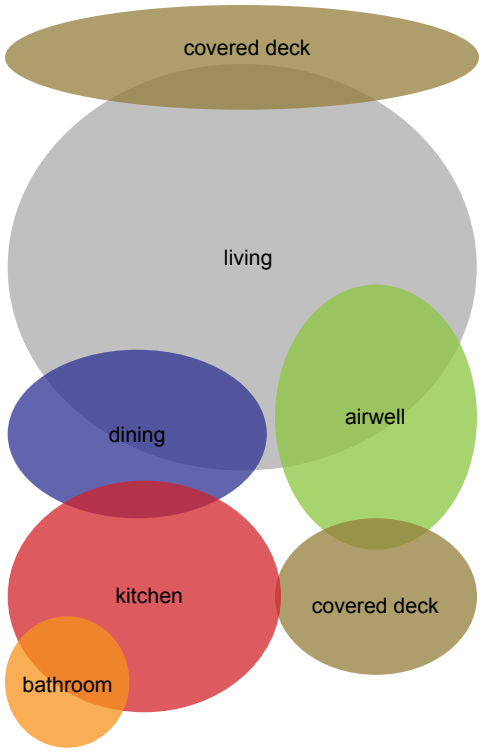


FIG. 14 Bubble Diagram - Second Level
<Tsutomi>

Covered Deck >>

The covered deck will be sheltered by the third floor so the harsh sunlight and passing showers customary to Honolulu will not hinder the use of the deck at any time of day or night. The front deck space will be visible from the street to create a lively streetscape where residents can gather on their decks and watch the streetlife below. The rear deck is adjacent to the kitchen and can serve as an extension of the cooking space for entertaining. The rear deck also serves as the main entry point to access the kitchen area if returning home by automobile. The rear deck symbolizes the main entry point for the residential component.

Living >> + Dining >> + Kitchen >>

The kitchen will be open in plan and seamlessly integrated with the dining and living spaces to be a large common area. A partial height partition will subtly divide the dining from the living area. The three areas will complement one another as a continuous span of open space. A blurring of boundaries between areas will occur more so for the dining and kitchen spaces, while the dining to living will be blurred, but not as discreetly. The living area has a floor level change of one step to create separation without actually forming an obvious barrier. The single step will separate, yet connect the two living areas so complete segregation doesn't occur.

Airwell >>

The airwell will be the focus of the kitchen, dining, and living areas in addition to the rear deck. The airwell will provide the second floor with the opportunity to take advantage of natural daylight and ventilation to help bring the outdoors indoors.

Bathroom >>

The bathroom is located at the rear of the shophouse to take advantage of natural ventilation and daylight. The bathroom is adjacent to the kitchen and tucked away in the rear corner.

9.2 Functionality >

9.2.3 Third Floor Level >

The third floor level will be comprised of live space broken down into six areas as follows:

Model-A Programming:

1- Covered Deck >>
2 -Master Bedroom >>
3- Library >>
4- Den >>
5- Airwell >>
6- Atrium >>
7- Bathroom >>
8- Bedroom >>

FIG. 15 Bubble Diagram - Third Level
<Tsutomi>

Covered Deck >>

The covered deck will provide a sheltered space directly outside the master bedroom ro allow around the clock use as an extension of the bedroom. The front deck space will be visible from the street to create a lively streetscape where residents can lounge on their decks to soak up the streetlife below. The rear deck serves as the mudroom and laundry area. This deck space also creates an extension of the indoor space. The deck is adja-cent, but not directly accessible from the bedroom.

Master Bedroom >>

The master bedroom contains a large walk-in closet, and bathroom. There is a covered deck adjacent to the master suite to enlarge the space while creating indoor-outdoor living. The master bedroom takes up the entire width of the third level shophouse front. The master bedroom will be able to take advantage of capturing natural daylight and ventilation.

Library >>

The library will consist of a wall unit with bookshelves and a small seating arrangement. The library can be a casual reading and lounging area directly outside the master bedroom.

Den >>

The den will be partially blended with the library to serve as a secondary living and possibly working space for the third level. The den can function as a television watching area where residents can lay out and relax or read and write.

Airwell >>

The airwell will be the focus of the den and rear deck. The airwell will provide the third-floor with the opportunity to take advantage of natural daylight and ventilation to help bring the outdoors indoors.

Atrium >>

The atrium is located directly above the second level dining area to better relate the two residential floors. The atrium also enables better daylight and ventilation to occur between the two levels. The atrium is directly opposite the airwell which created a bridgeway from the rear to the front of the shophouse.

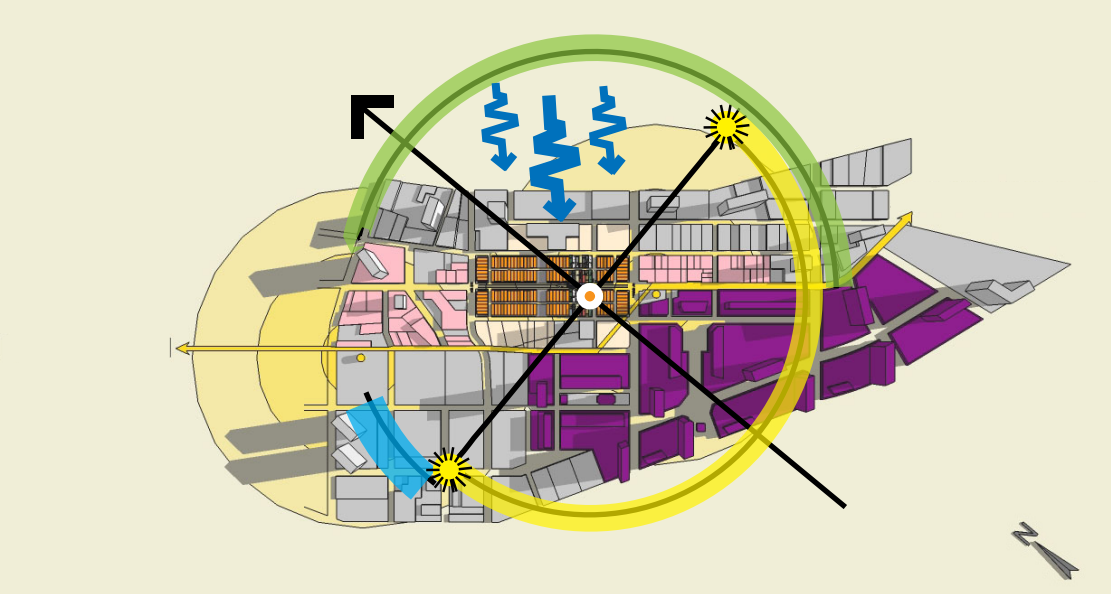
Bathroom >>

The bathroom is located adjacent to the airwell and not at the shophouse rear. The bathroom is a little more centralized and will need to be vented as it doesn't directly access the outdoors.

Bedroom >>

The bedroom is located at the rear of the shophouse to take advantage of natural daylight and ventilation. The bedroom can serve a variety of uses other than a place to only sleep. The bedroom could serve as a workshop, game room, or whatever the occupant desires.

SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT



+ Site Analysis Plan: Solar Orientation - Wind Pattern - View Corridor (Tsutomi)

VALIDATING THE NEED FOR THE SHOPHOUSE IN HONOLULU

10.0

PART 2: DESIGN PROPOSAL

10.0 SITE ANALYSIS >

10.1 DESIGN INTENT >

According to research conducted in Part I of the DArch Research Document – Section 7.0 Validating the Need for the Shophouse in Honolulu – urban Honolulu does not administer a sufficient amount of live-work space for entreprenurial individuals and small business owners. The inadequate amount of live-work space is detrimental to the urban fabric, people, and identity of Honolulu. If ever there was an appropriate time to integrate live-work spaces like the shophouse throughout Honolulu that time is now. The Central Kakaako neighborhood in urban Honolulu is ripe for live-work development especially with the probable adoption of rail transit running down Halekauwila Street. The Kakaako area must capitalize on the shophosue as a valid live-work space that is able to accommodate a variety of critical needs encompassing the increasing user demographics, rising trend of eco-consciousness, and renewal of the urban fabric. Therefore, the site for integrating the shophouse into urban Honolulu is in Central Kakaako along Queen Street (between Ward Avenue and Cooke Street with possibilities extending to Kamakee Street and South Street).

FIG. 16
Urban Honolulu & Kakaako
<Google Earth>

10.2 SITE MACRO: KAKAAKO >

The project site is located in urban Honolulu on the southern section of Oahu. Kakaako is a 600-acre district composed of two primary zones: 1 - Mauka Area, bounded by King Street (north), Piikoi street (east), Ala Moana Boulevard (south), and Punchbowl Street (west); 2- Makai Area, includes the waterfront area from Kewalo Basin to Forrest Avenue and the Hawaiian Electric Company power plant site. Kakaako was once a light industrial district, but the area has been slowly transforming throughout the years with a variety of urban renewal efforts.

The Hawaii Community Development Authority is a State agency that was established in 1976 to encourage traditional community renewal methods by promoting and coordinating public and private sector community development. The HCDA is responsible for planning, regulating, and redeveloping the Kakaako Community Development District. The HCDA strives toward promoting an environment where one can truly live, work, and play in urban Honolulu.

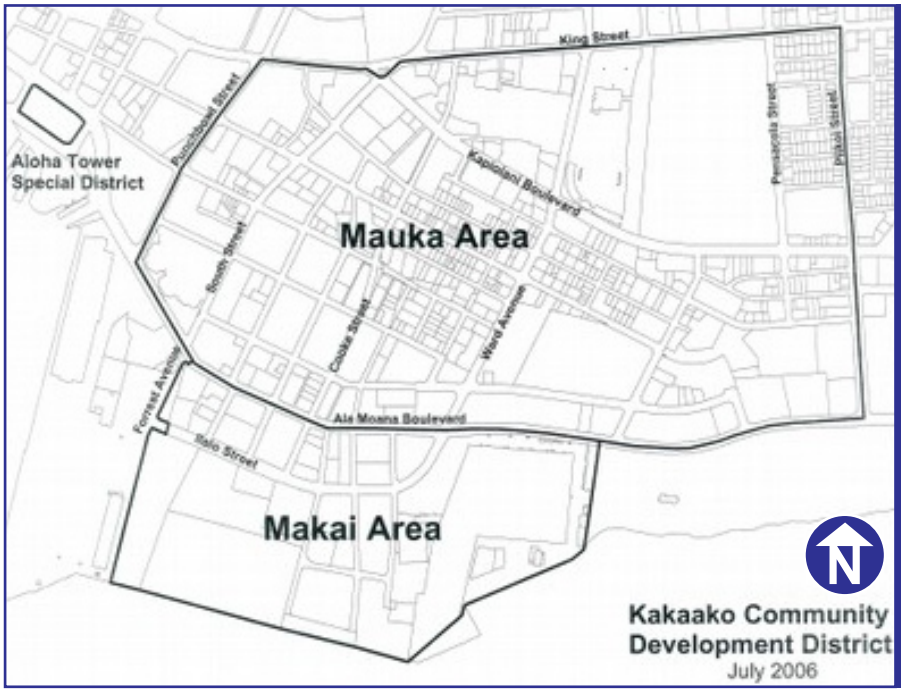


FIG. 17

Kakaako:
Mauka Area
& Makai Area
<http://hcdaweb.org/kakaako/plans-rules/Boundary%20Map.jpg/view>

To date the State has invested over $217 million on infrastructure and public facilities improvements in Kakaako to spur new housing opportunities, community facilities, and increase business opportunities. The major investment in Kakaako by the State displays commitment toward long-term development which is why Kakaako is the ideal location for the integration of live-work shophouses into an urban environment. The future density, high foot traffic, incorporation of rail transit, and prime location between Downtown and Ala Moana validate the project as a viable scenario.

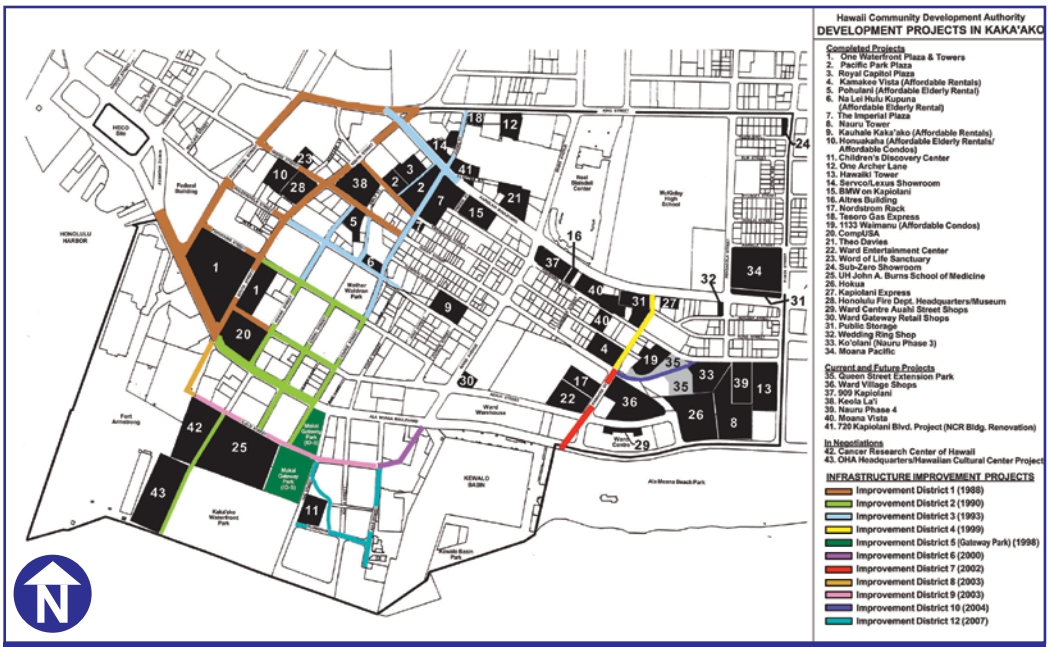


FIG. 18

Kakaako Development Projects: Current and Future
<http://hcdaweb.org/kakaako/plans-rules/Map%20of%20Kakaako%20District%20Projects%20April%202007.pdf>

Further evidence as to why Kakaako is the preeminent location to implement a development of live-work shophouses is noted on the HCDA website. According to the webpage, the HCDA is fully commited to establish Kakaako as the most desirable urban place in Hawaii in which people can work, live, visit, learn, and play. The current development boom in Kakaako holds true to the vision of the HCDA. New residential towers such as the Koolani, Hokua, Moana Pacific, Keola Lai, and 909 Kapiolani are only the current batch of developments that hint at the changes to come. Further large scale development is already being planned, designed, and constructed such as the General Growth Properties' massive project of the former Kakaako land parcels owned by Victoria Ward.

The HCDA needs to create a well-rounded balance of living, working, and playing uses within Kakaako. As the cost of living in Hawaii will continue to escalate, residents need to be able to pursue viable living, working, and playing options centered around an urban setting. Living in suburban sprawl and the distress placed on people who have to commute from Mililani Mauka, Kapolei, and Ewa into Honolulu on a daily basis needs to cease. The capacity of the shophouse to cater to small locally owned businesses can enable entrepreneurial individuals and local residents the opportunity to live, work, and play around a pedestrian-oriented urban streetscape that is Kakaako.

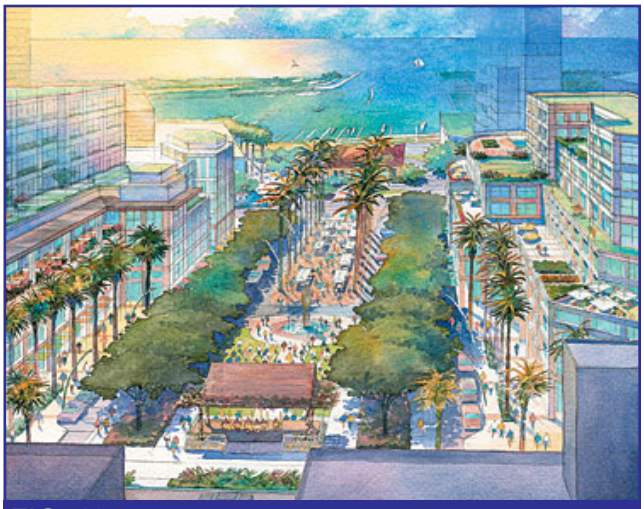


FIG. 19
Illustration of General Growth Properties mixed-use development slated for Kakaako
<http://hcdaweb.org/ward-neighborhood-master-plan-2>

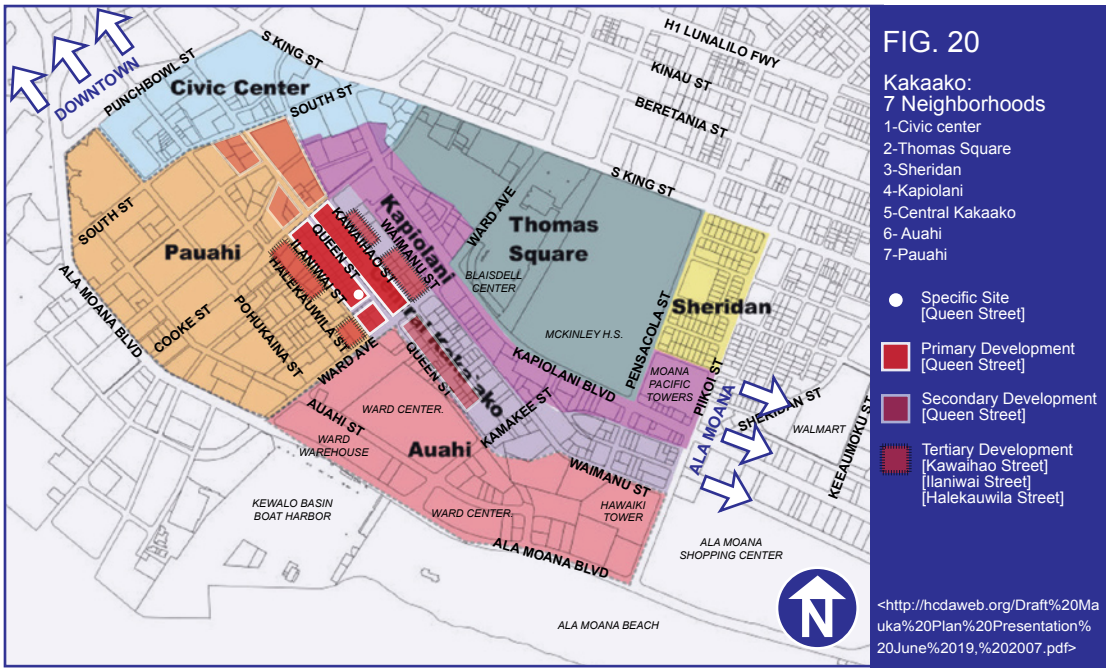
The HCDA has given glimpses of the type of district they envision for this urban area of Honolulu and it is of large-scale mixed-use development. The snapshots of what the HCDA has conceived is sensible because a greater amount of people will be able to live closer to where they work and play, thereby reducing sprawl. For Kakaako to truly be a live, work, play community, emphasis must be placed on interconnectivity within the community. The spaces between these large developments and the transitional zones from development to development are as significant as the developments themselves. The shophouse is an idyllic building form that can adapt and conform to those very circumstances.

The shophouse affords Kakaako the ability to integrate a multi-use building that is highly conducive toward creating a live, work, play environment. The three core characteristics the shophouse emphasizes help establish the live-work space as a building typology that complements the direction Kakaako is leaning toward: first is the capacity of the

live-work space to accommodate diverse entrepreneurs and small businesses; second is the inclination to encourage people to move about by walking or biking; third is the flexibility to be situated in a variety of locations. The more locally-driven, pedestrian-oriented, and interconnected, the better off Kakaako will be at successfully melding itself together for the future.

10.3 SITE MICRO: KAKAAKO >

The specifc site of the design project is located at the corner of Queen Street and Kamani Street in Central Kakaako. The primary shophouse development will be along Queen Street between Ward Avenue and Cooke Street (with a possible extension to Kamakee Street and South Street). The shophouse development has the potential of expanding outward to create secondary and tertiary developments that further bolster the formation of an enhanced live-work community. There are three immediate streets that come to mind regarding the advancement of shophouse development. Kawaihao Street, Ilaniwai Street, and Halekauwila Street all contain prime pieces of land well-suited to enrich shophouse development along Queen Street.



The Queen Street site is ideal due to a number of characteristics:

1-Underutilized MXD district

2-Transition Zone

3-Rail Transit

4-Building Height-to-Street Width Ratio

5-Residential Influx

6-Gridiron City Plan

7-City Block Dimension

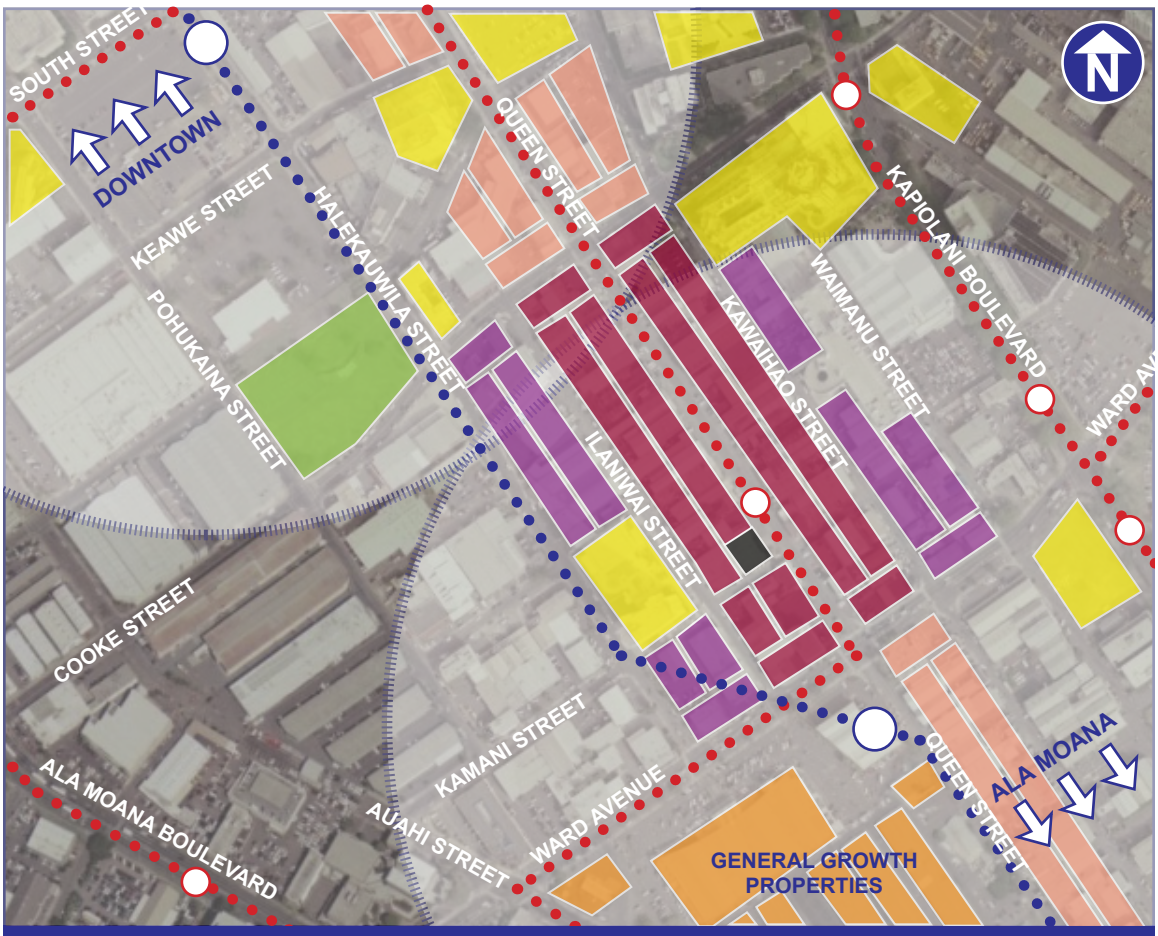


FIG. 21
Kakaako: Transit Map
<Google Earth>

Rail Transit
Rail Stop
Bus Transit
Bus Stop
1/4 Mile Walking Radius
General Growth Properties
Residential Towers
Public Green Space
Specific Shophouse Site
Primary Shophouse Development
Secondary Shophouse Development
Tertiary Shophouse Development

First, the lay of the land is currently underutilized and inefficient. Queen Street is a street that directly links Downtown to Ala Moana in the heart of urban Honolulu only to be filled with light industrial and auto mechanic-oriented uses. Queen Street also has inadequate parking and minimal if any sidewalk space which doesn't promote pedestrianism or sidewalk appeal. Queen Street is a wasteful use of valuable urban space. Queen Street must shed its layers of insufficiency in order to transform Kakaako into realizing its full potential as a live, work, play environment.

Second, Queen Street as previously mentioned sits in a transition zone between Downtown and Ala Moana. Live-work spaces like the shophouse function well in areas where zoning uses change. The shophouse is a wonderful building typology that is able to buffer and blend two opposing zoning areas. The shophouse development along Queen Street can blend the transition from Downtown to Ala Moana and transit stop to transit stop while creating its own identity.

Third, the adoption of rail transit with two of the rail stops being within a five minute walk of Queen Street. Rail transit and the living, working, and playing type of development that surrounds the transit stops will enable an increased amount of foot traffic to exist for shophouse owners to target.

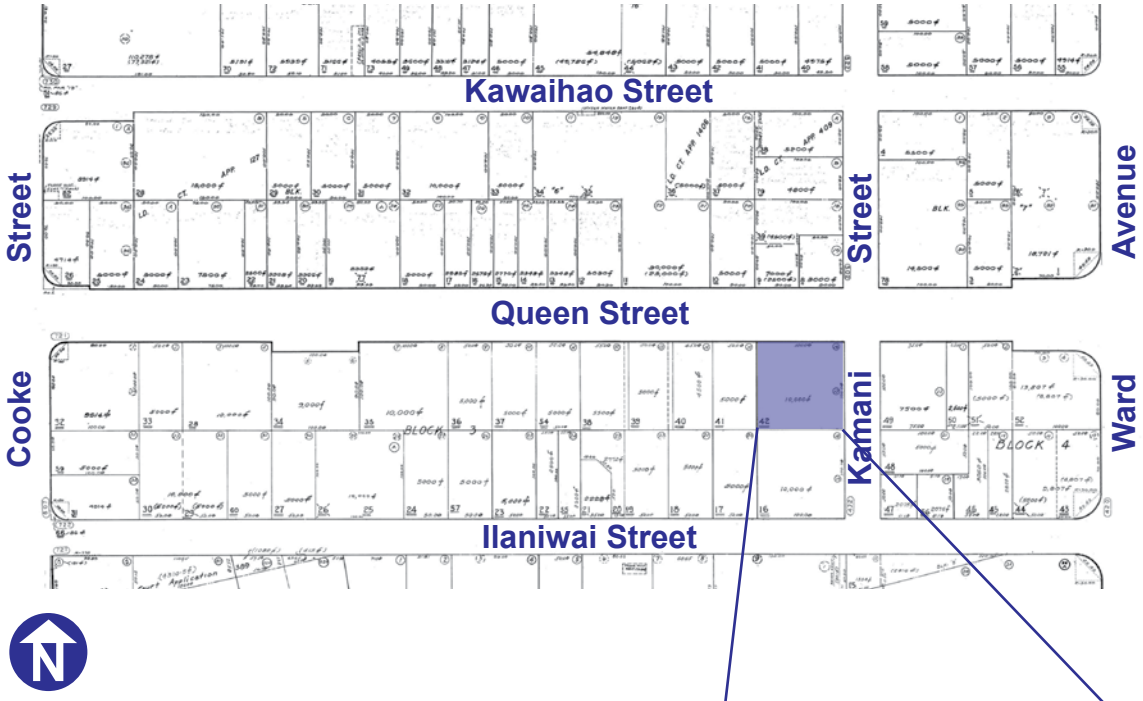
Fourth, the building height-to-street width ratio is of the pedestrian scale. Queen Street has a ratio of 1:2 and 1:3 which is pleasant. However, the integration of the shophouse could further enrich the streetscape and establish a stronger sense of place by reshaping the ratio to be 1:1 or possibly 1.5:1.

Fifth, the influx of residential towers throughout Kakaako further increase the density of people per acre. Residents of these towers need places like the shophouse which offer merchandise and services all within a short walk from their highrises.

Sixth, the area is composed of city blocks that resemble a grid-like formation. The 90-degree right angle orientation makes it easy for shophouses to locate adjacent to one another. The grid format makes it easier to establish a continuously covered pedestrian-way and common party wall between units.

Seventh, the dimension of the city block is approximately 200’ deep so a rear alley can be added in the middle of the 200’ between Queen Street and Kawaiaho Street and Queen Street and Ilaniwai Street. The incorporation of a rear alley into the city block will still leave adequate space for a shophouse to fit while being services from the rear. Eighth, the uniform widths of each lot being narrow help to fit numerous diverse shop-houses per given block. Each individual lot is either 25’ wide or a multiple of 25’, up to 100’ so locating the 25’ wide shophouse into the block is a direct fit.

10.3.1 Site Micro: Queen Street >



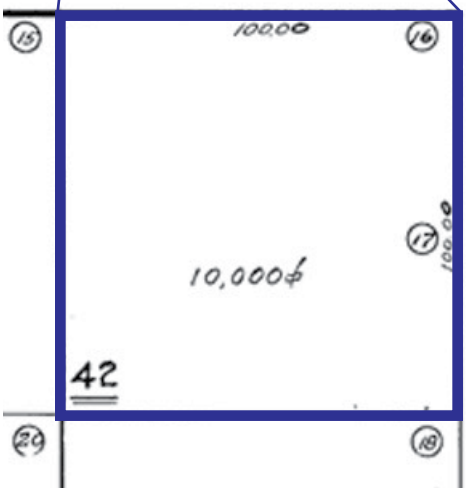


FIG. 22
Tax Map Key of Site: Queen Street
<ftp://gis.hicentral.com/gis/TaxMaps/Zone2/O21049.TIF>
<ftp://gis.hicentral.com/gis/TaxMaps/Zone2/O21050.TIF>

Address:	885 Queen Street
TMK (Tax Map Key):	2-1-050:042
Area:	10,000 square feet
Lot Number:	16, 17
Ohana:	None
Flood Zone:	Firm Zone X
Height Limit:	State Jurisdiction
Historic Register:	No
Lot Restrictions:	None
SMA/Shoreline:	Not in SMA
Special District:	Kakaako Comm Dist--Adm by HCDA
State Land Use:	Urban District
Street Setback:	Yes--See DTS MAP PUC-10. Verify with TRB 768-8083
Zoning (LUO):	Hawaii Community Development Authority
Zoning (LUO):	State Jurisdiction: Refer to

10.3.2 Site Photos >

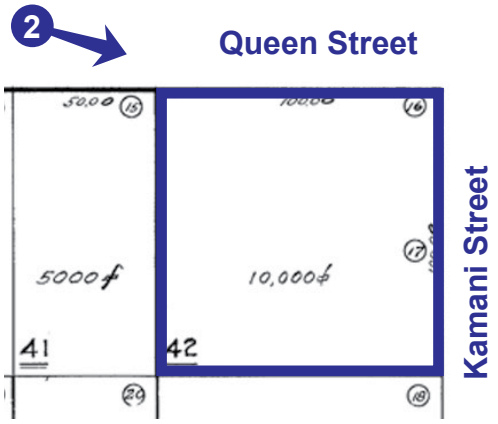


FIG. 23
Tax Map Key of Site: Queen Street
<ftp://gis.hicentral.com/gis/TaxMaps/Zone2/O21050.TIF>

FIG. 24 & 25
Site Photos
<Tsutomi>

10.3.3 Site Parameters: Physical >

10.3.3.1 Boundaries & Edges >

The urban Honolulu site location is primarily bound by light industrial and commercial uses. The Central Kakaako site is bound by Queen Street to the northeast (streetfront) and Kamani Street to the southeast (side street) and Ilaniwai Street to the south (rear). Queen Street is currently a two-way arterial street comprised of two traffic lanes with haphazard parking arrangements. Some businesses have no streetfront parking, some have parallel parking, while others have small surface lots for parking. There isn't any dedicated sidewalk space for pedestrians nor bicycle lanes for cyclist to traverse down Queen Street making it dangerous to walk or bike.

The Queen Street site is 100' wide by 100' deep totaling 10,000 square feet. The entire city block is composed of parcels that are mainly 25' wide or multiples of 25' wide by 100' deep. Therefore, the city blocks are 200' deep with no rear service alley separating the adjacent lots. The building to building right-of-way is roughly 50', plus 3' of private property fronting each building to total 56'. The HCDA is proposing that Queen Street be modified into a one-way street west-bound and Halekauwila Street into a one-way street east-bound. The rerouted Queen Street would be 34' from curb to curb with two lanes of traffic (10' x 2= 20') and two lanes for parking (7' x 2= 14'). The pedestrian realm will be 11' minimum width.

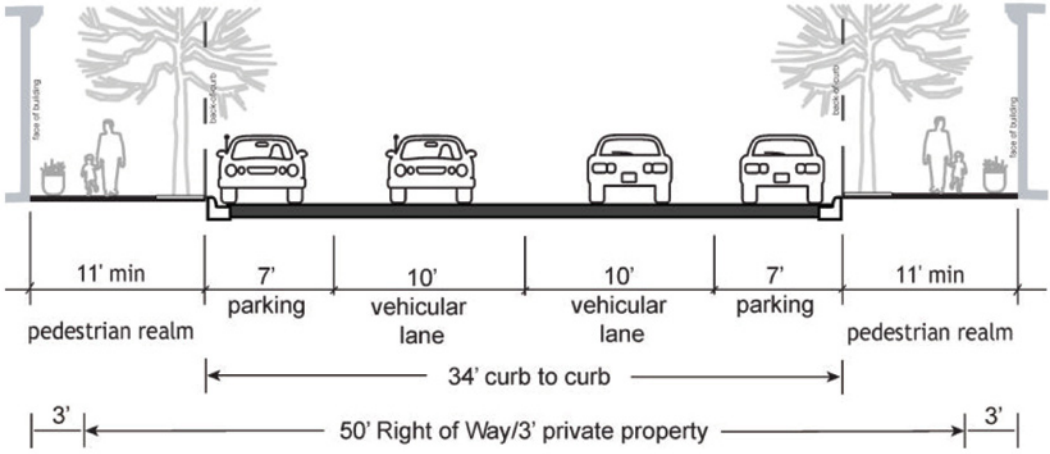


FIG. 26
HCDA Proposed Street Section: Modified Queen Street
<http://hcdaweb.org/Draft%20Mauka%20Plan%20Presentation%20June%2019%2C%202007.pdf>

To the immediate north lies similar light industrial and commercial buildings along Kawaiaho and Waimanu Streets. Beyond to the north lies the major traffic corridor that is Kapiolani Boulevard. Office and residential towers and Luxury automobile dealerships like Mercedes-Benz, BMW, and Lexus along with the Blaisdell Center are located a few blocks mauka. To the east lies Ward Avenue and General Growth Properties large retail and entertainment complex that till soon transform into a world-class MXD district where living, working, and playing can all be achievable. Beyond the GGP properties is Ala Moana Shopping Center and Waikiki. To the south lies additional light industrial and commercial uses along Ilaniwai, Halekauwila, Pohukaina, and Auahi Streets. The future rail transit line will run along Halekauwila Street. Beyond the aforementioned streets is Ala Moana Boulevard and Beach, Kewalo Basin, and the Kakaako Waterfront. To the west lies Cooke, South, and Punchbowl Streets. Cooke and South Streets maintain the light industrial and commercial uses while Punchbowl is designated as the Civic Center.

FIG. 27
Site Adjacencies

FIG. 28
Site Photos:
Queen Street looking west
toward Civic Center

<Tsutomi>

FIG. 29
Site Photos:
Kamani Street looking
north toward mountains

<Tsutomi>

FIG. 30
Site Photos:
Ilaniwai Street looking west
toward Civic Center

<Tsutomi>

FIG. 31
Site Photos:
Queen Street looking east
toward Ala Moana

<Tsutomi>

10.3.3.2 Access >

Kakaako is comprised of numerous streets that place the vehicle first and the pedestrian second. Large boulevards, arterial roads, collector roads, and local roads all intermix to create a network of streets that connect Kakaako to the greater urban Honolulu. Streets such as Ala Moana Boulevard, Kapiolani Boulevard, Halekauwila Street, and Queen Street run east-west and vice versa. Streets like Ward Avenue, Cooke Street, and South Street run north-south and vice versa. The Central Kakaako neighborhood is fairly easy to navigate as the city blocks are organized in a gridiron plan.

The only current form of public transportation throughout Kakaako is The Bus. The Bus has a few routes that service Kakaako so its riders may sometimes have lengthy walks in order to get to their destination as The Bus doesn't run on every street. The incorporation of a possible rail transit line will enhance accessibility to the site with increased amounts of foot traffic and TOD. The Rail stations will be roughly one-half mile apart so the average pedestrian will be within a 10 minute walk of a rail station. Rail can interconnect the various neighborhoods within Honolulu with one another and neighborhoods outside of Honolulu with Honolulu to create a more dynamic Kakaako.

Pedestrian movement constantly occurs throughout Kakaako on a daily basis. The level terrain allows easy walking, biking, and any other alternative form of transportation to transpire. Although it is common to see pedestrians walking in and around Kakaako to get to work, a meal, the beach, or shopping, Kakaako could make a more concerted effort at creating pedestrian-friendly streetscapes to enhance life in this district.

Although Queen Street is easy to find, navigating Queen Street is problematic. There is no dedicated sidewalk space so it is dangerous to walk down the street. The lack of a raised curb and sidewalk that separates the automobile from the pedestrian doesn't promote pedestrianism. The Queen Street streetscape needs to be improved with safer sidewalks and parking arrangements to make Kakaako more accessible to those who not only drive, but also to those who walk, bike, and use public transportation.

FIG. 32
Kakaako: Access Map
<Google Earth>

Rail Transit
Rail Stop
Bus Transit
Bus Stop
1/4 Mile Walking Radius
Major Road
Specific Shophouse Site

10.3.4 Site Parameters: Social >

Kakaako is a considerably large neighborhood that encompasses 600-plus acres (Mauka-420 and Makai-220). The swath of social data collected signifies the zip code 96814, a roughly 0.75-mile radius with Mckinley High School as the origin. An analysis of the demographics is presented below which includes age distribution, race distribution, household: income, household: family & non-family, household: individuals, household: owner & renter, education, occupation, commute of the 13,906 population. The statistics are from the US Census Bureau website which utilizes information from the year 2000. The obtained data will undergo drastic changes as the population in Kakaako will contiue to boom with all the anticipated future development. The population numbers for this area of urban Honolulu will more than double by the year 2030 to total 30,000-plus residents. The following statistics symbolize the current state of residents in Kakaako. The untapped potential of this urban community is slowly emerging as Kakaako is ripe for development.

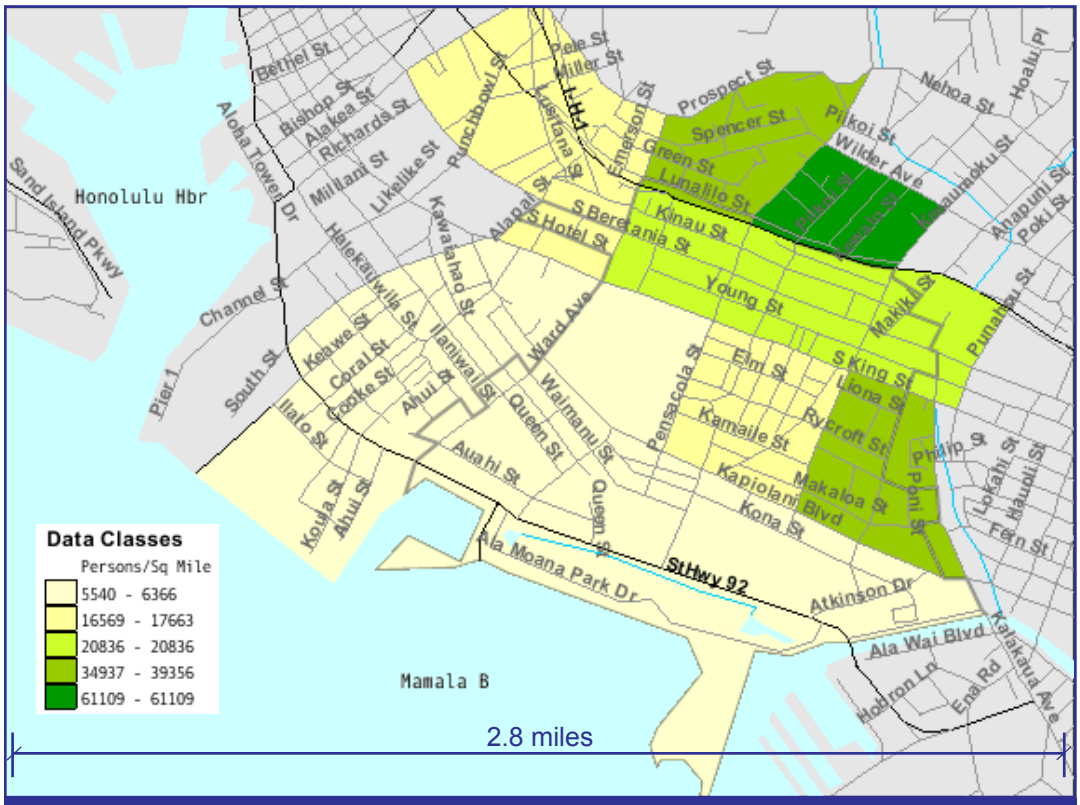
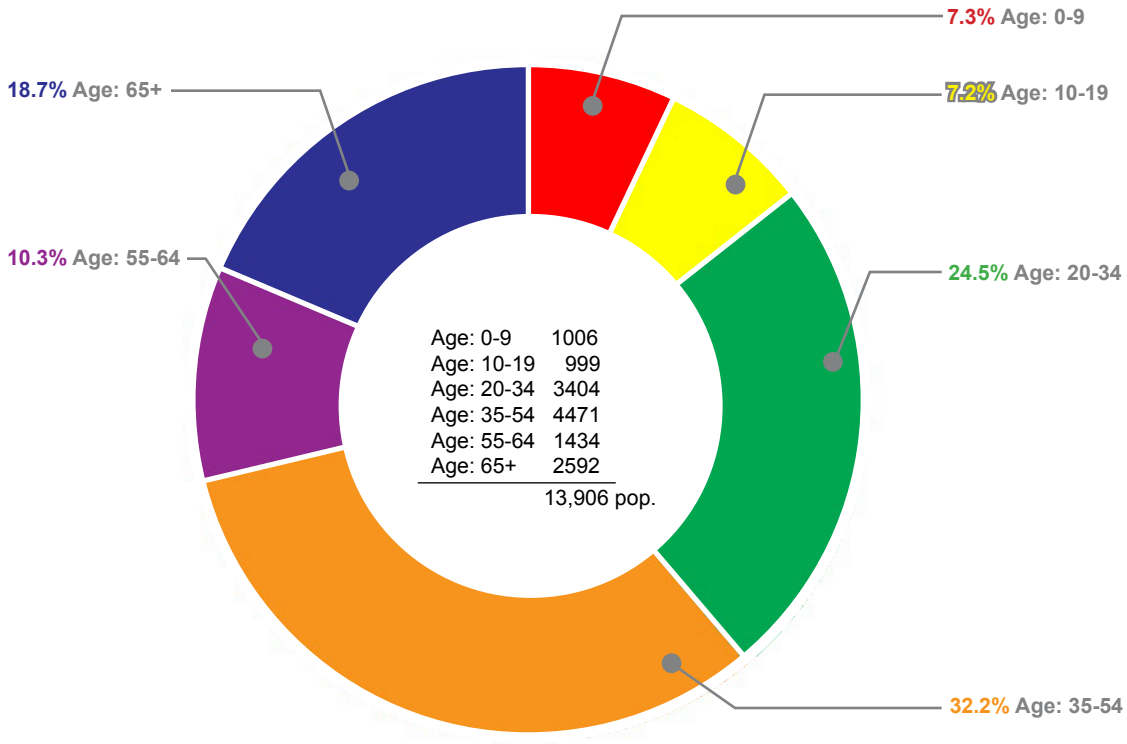
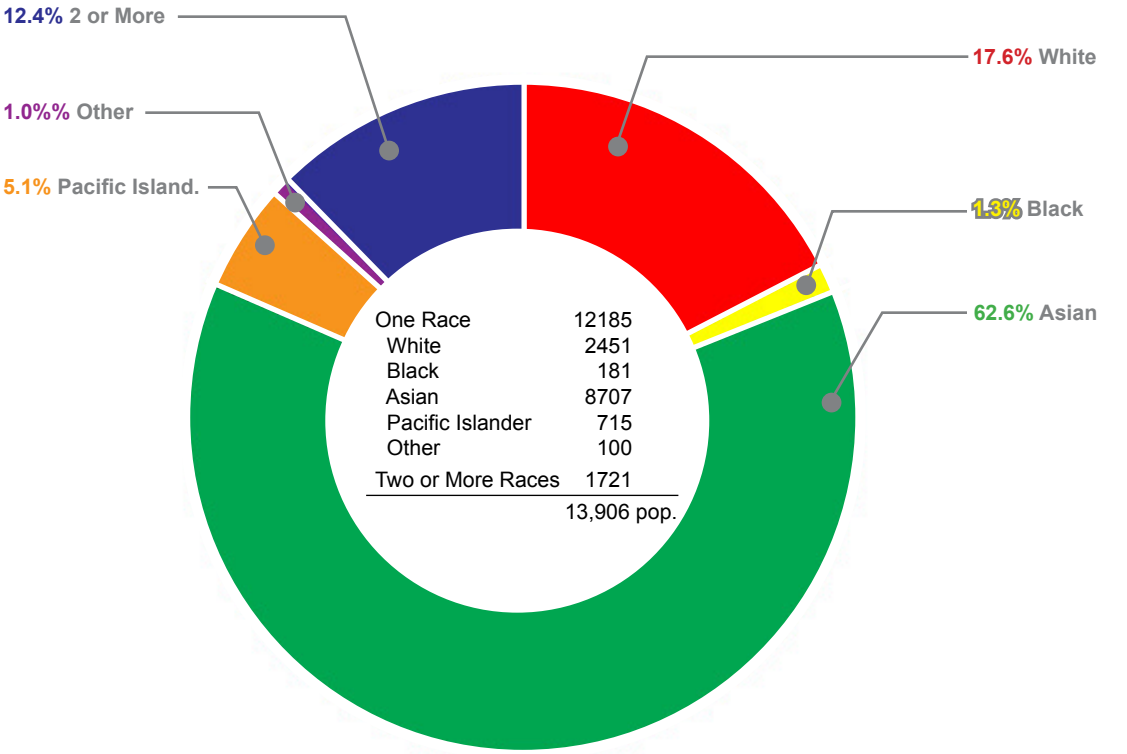


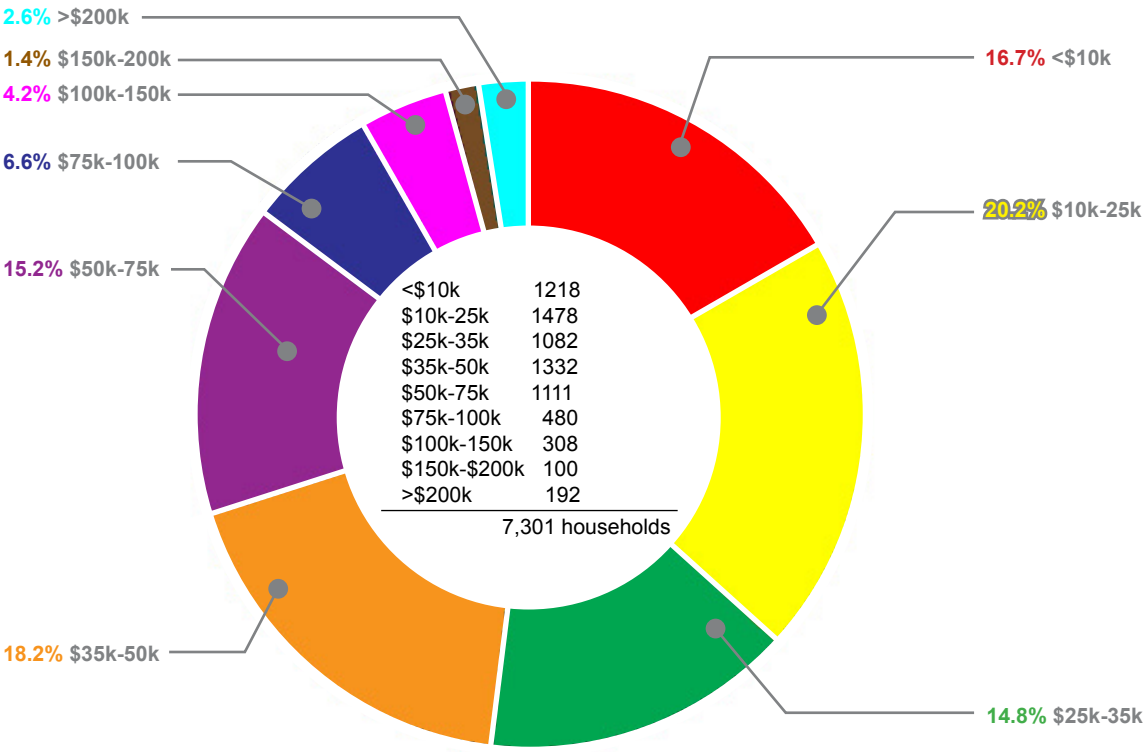
FIG. 33
Map of ZIP Code 96814
<http://factfinder.census.gov>



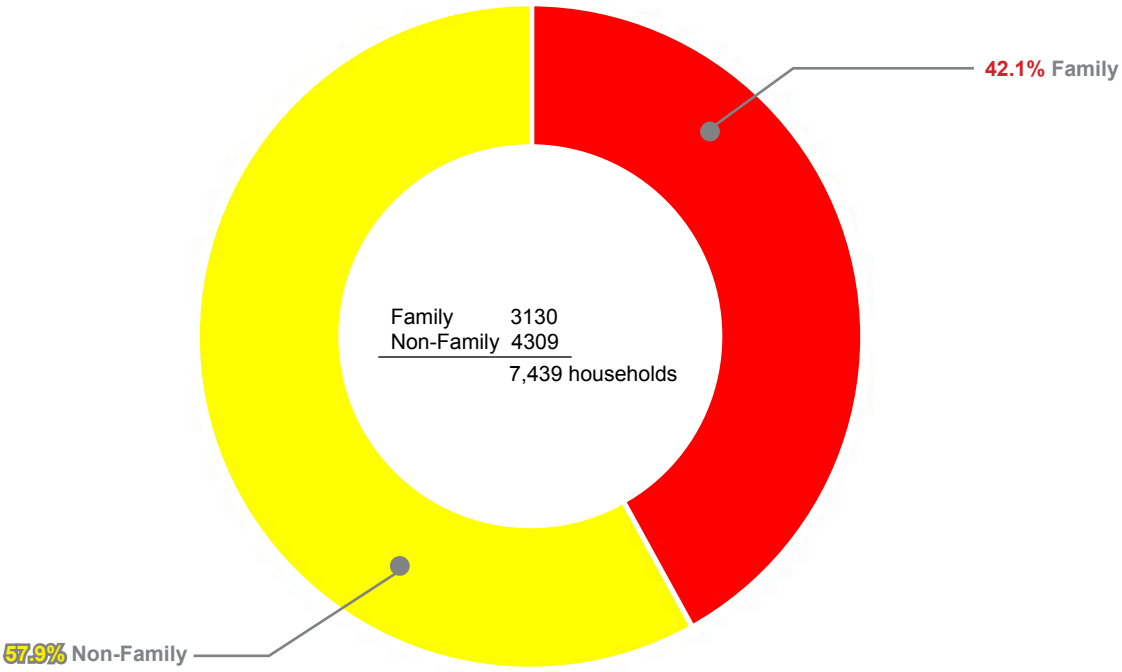
AGE DISTRIBUTION | FIG. 34 <http://factfinder.census.gov>



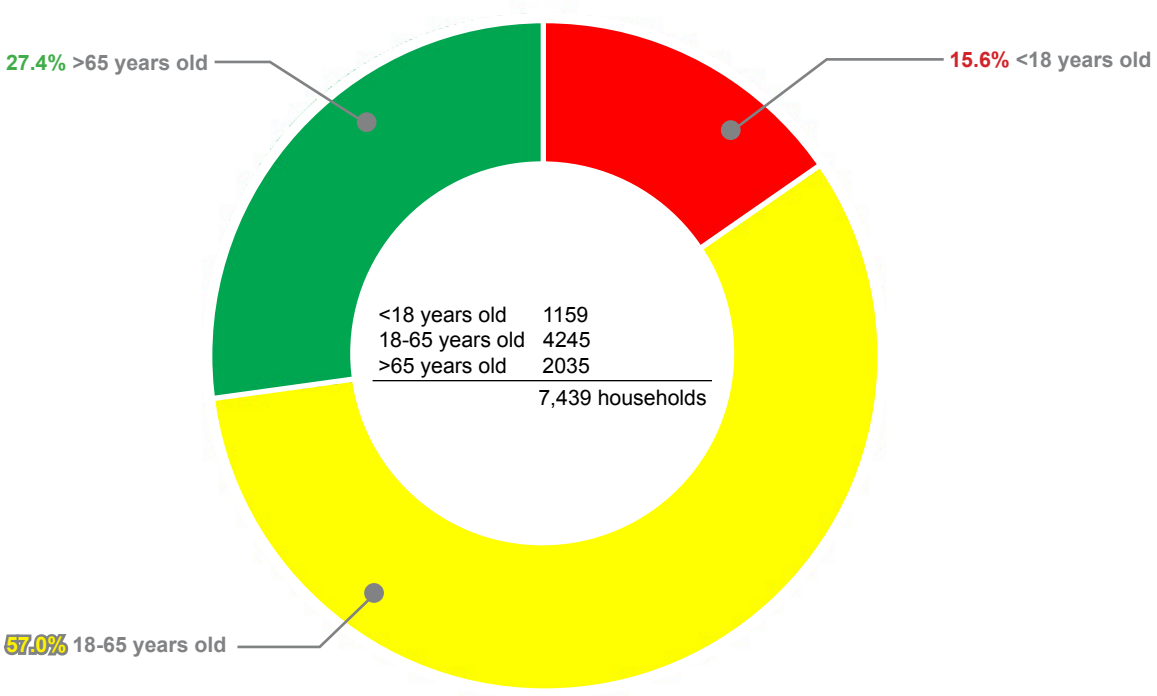
RACE DISTRIBUTION | FIG. 35 <http://factfinder.census.gov>



HOUSEHOLD: INCOME | FIG. 36 <http://factfinder.census.gov>

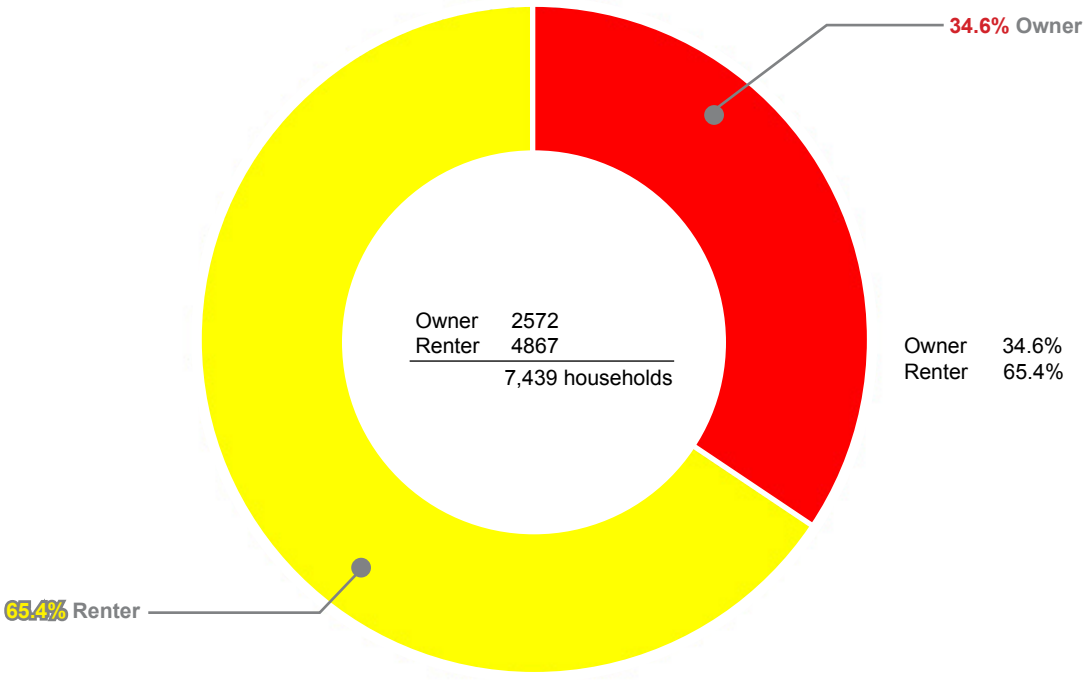


HOUSEHOLD: FAMILY & NON-FAMILY | FIG. 37 <http://factfinder.census.gov>



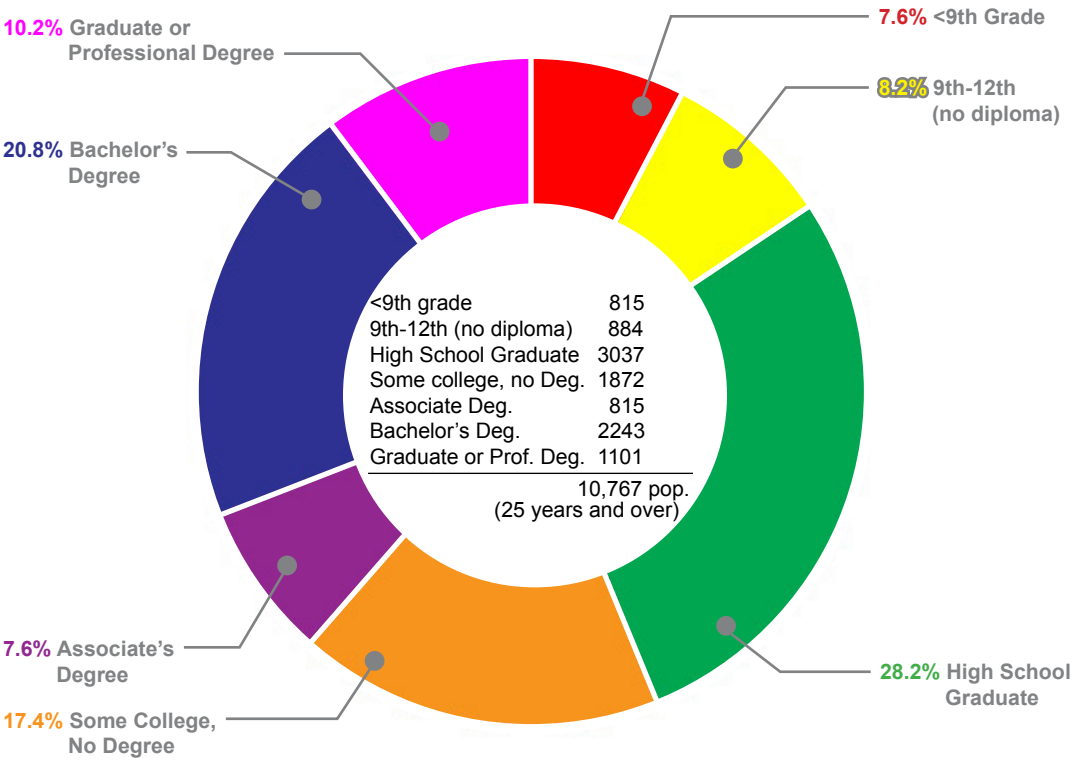
HOUSEHOLD: INDIVIDUALS

FIG. 38
<http://factfinder.census.gov>

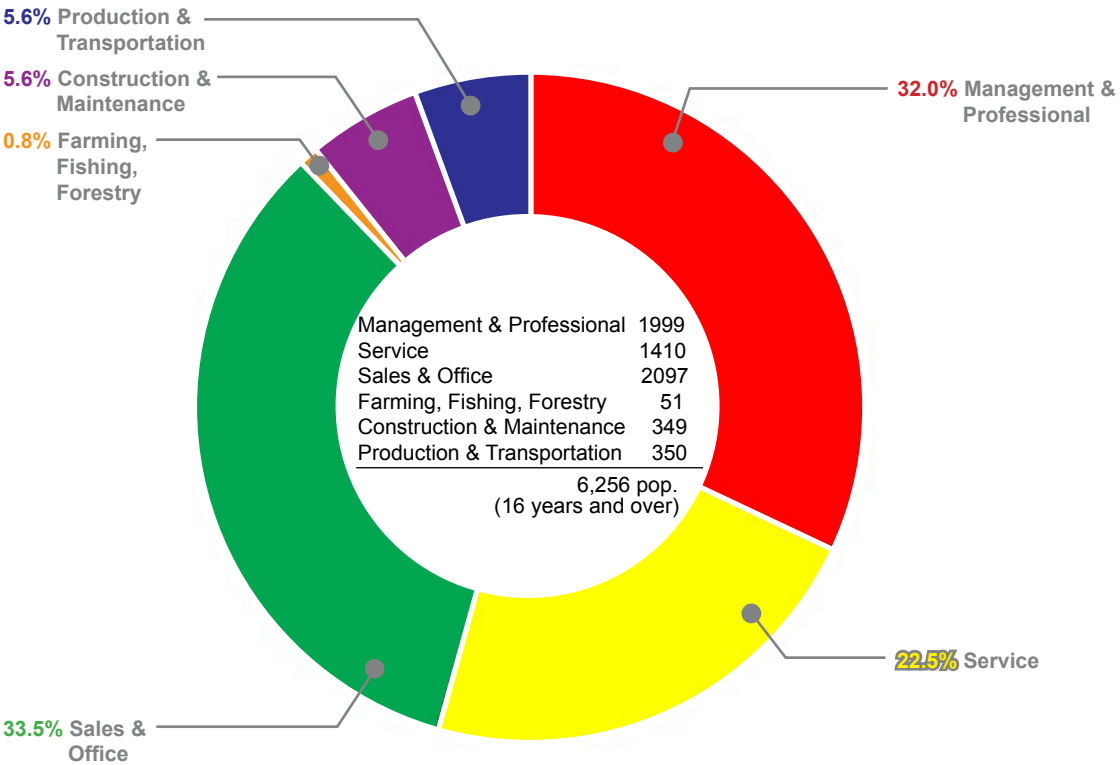


HOUSEHOLD: OWNER & RENTER

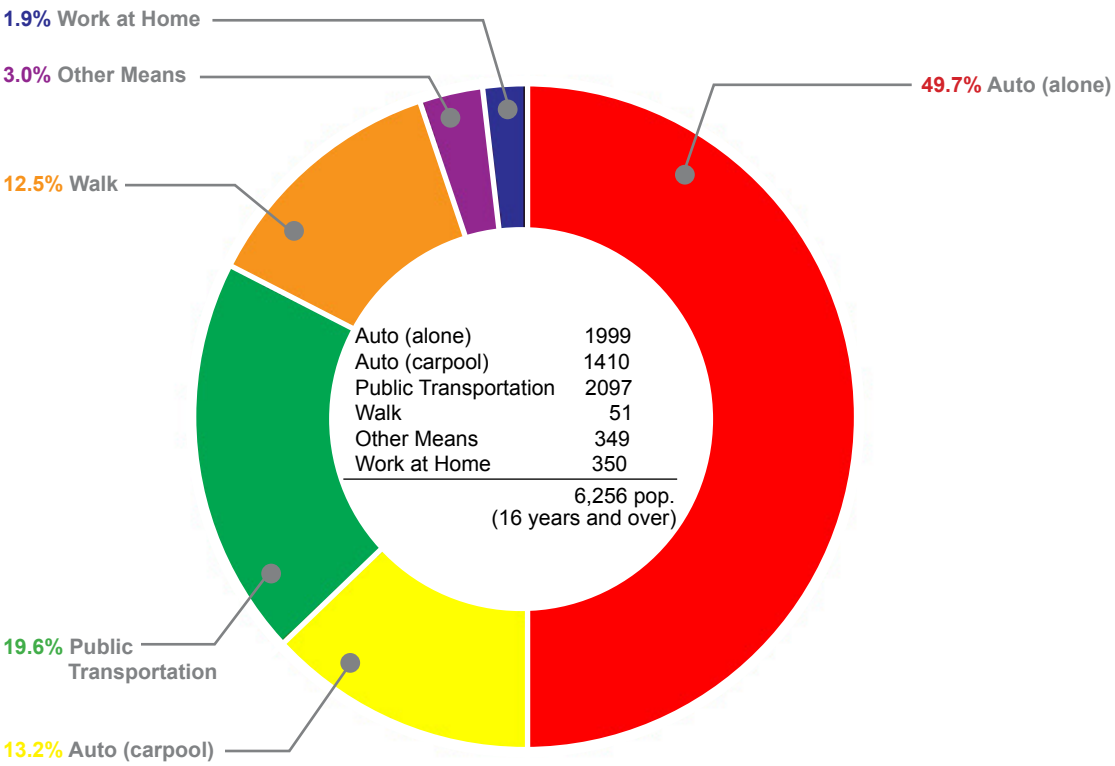
FIG. 39
<http://factfinder.census.gov>



EDUCATION | FIG. 40 <http://factfinder.census.gov>



OCCUPATION | FIG. 41 <http://factfinder.census.gov>



COMMUTE | FIG. 42 <http://factfinder.census.gov>

According to the gathered data from the year 2000, Kakaako has a sizable young professional and baby boomer population. The 20-34 age group comprises nearly 25% while the 35-54 demographic is 32% and the 55+ bracket is 29% of the population. Asians compose over one-half the population (63%) while Caucasians are the second largest group (18%). Over 85% of the Kakaako population make $75k or less.

The median household income in 1999 for Kakaako residents was $33,219 while the national average was 41,994. The lower median household income can be attributed to the greater amounts of families and individuals below the poverty line. The national average of families below the poverty line is 9.2%, Kakaako is 14.4%; for individuals below the poverty line the national average is 12.4%; Kakaako is 19.5%.

Kakaako has slightly more individual, non-family households (57.9%) compared to family households (42.1%). Over half the household population falls between the ages of 18-65

years old (57.0%). The amount of people who rent (65.4%) is almost double the amount of people who own their homes (34.6%). Roughly one-third of the population has a Bachelor's degree or higher form of education (31.0%) which is higher than the national average of 24.4%.

Nearly 90% of the residents are employed in occupations like sales and office; management and professional; or service so the majority are white-collar workers. Nearly half the Kakaako population drive to work individually while one-fifth use public transportation and 13% walk. The mean travel time to work is 18.8 minutes which is quite short compared to the 25.5 minute national average.

Although this data is semi-outdated (as it nearly 10 years old) and immense changes have occured since 2000, the statistics help to represent the starting point toward refining the direction as to where Kakaako needs to steer itself. The incorporation of large residential towers such as Keola La'i, Moana Pacific and 909 Kapiolani are providing the living component. However, the working and playing uses are becoming more and more sub-standard. The GGP's vast mixed-use development will definitely help boost the revitalization of Kakaako on a macro scale, yet, the sheer magnitude of the GGP project lacks local character. A row of shophouses that form a small scale neighborhood development better speaks to the micro scale of Kakaako. Integrating live-work shophouses along Queen Street can complement the GGP development to better equip Kakaako as a live, work, play environment that speaks of the local culture, lifestyles, and residents.

10.4 REGULATIONS & RESTRICTIONS >

This project will take into consideration the regulations and restrictions set forth by the City and County of Honolulu and the State of Hawaii. The City and County of Honolulu's Department of Planning and Permitting (DPP) helps establish, promote, and implement long-range planning programs for Honolulu that reflect the community's values, priorities, and visions for the future. The department is also responsible for coordinating planned population and land-use growth together with infrastructure improvements (www.honolu-ludpp.org).

The State of Hawaii's Hawaii Community Development Authority (HCDA) is account-able for the planning, regulating, and redeveloping of Kakaako and Kalaeloa Community Development Districts. The Authority focuses on positive economic, cultural, and envi-ronmental outcomes to enhance quality of life. The HCDA establishes a vision that pro-motes positive economic development, preserves diverse cultural heritage, incorporates best practices in energy and environmental sustainability, and fosters a live, work, visit, learn, and play mixed-use community (www.hcdaweb.org).

Although the DPP and HCDA are the governing bodies of development in Kakaako, changes will be made to integrate the live-work shophouse into Kakaako. The shop-house requires a new modified zoning use and development standard as the five-foot way serves as public space sheltered by private space up above. The DPP currently has a BMX-3 zoning type which allows a mixture of commercial and residential uses horizon-tally, vertically, or both. However, the BMX-3 zoning standard is insufficient in addressing the shophouse.

10.4.1 INTERNATIONAL BUILDING CODE (IBC) >

As of September 2008, the City and County of Honolulu discontinued use of the 19997 Uniform Building Code (UBC) and adopted the 2003 International Building Code (IBC) and the 2003 International Residential Code with appropriate amendments. The IBC "is founded on principles intended to establish provisions consistent with the scope of a building code that adequately protects public health, safety, and welfare" (2003 IBC iii). Some of the chapters in the IBC pertain to topics such as building occupancy; heights and areas; interior finishes; foundation, wall, roof construction, fire protection systems, materials used in construction, elevators and escalators, existing structures, and means of egress. the chart below is an IBC code analysis for the Queen Street site.

PROJECT NAME: 885 Queen Street

OCCUPANCY (UBC Chapter 3)	**TYPE OF OCCUPANCY**	**OCCUPANCY GROUP**	
	Professional Services (architects, attorneys, dentists, physicians, engineers, etc.)	B	
	Residential (dwelling)	R-3	
	Utility & Miscellaneous (carports, private garages)	U	
ALLOWABLE FLOOR AREA	Type of Construction (UBC Chapter 5) (UBC Chapter 6)	Type-V 1.0-Hour	
	Basic Allowable Area - 3 Story (UBC Table 5-B)	14,000 sf	
AREA SEPARATION WALLS (UBC 504.6)	Type of Construction	Type-V One-Hour	
	Fire Rating of Separation	Two-Hour Fire Resistive Construction	
	Protected Openings	One- and One-Half Hour Fire Protection	
ALLOWABLE BUILDING HEIGHT		**Feet**	**Story**
	Basic Allowable Building Height		3
	Story Increases - Automatic Sprinkler (UBC 506, par. 2)		1

TYPE OF CONSTRUCTION

(UBC Chapter 6)

Fire Resistive Requirements
(UBC Table 6-A)

Building Elements	Rating	Reduction	Remarks
Exterior Bearing Wall	1		
Interior Bearing Wall	1		
Exterior Non-Bearing Wall	1		
Structural Frame	1		
Partitions- Permanent	1		
Shaft Enclosures	1		
Floors and Floor-Ceiling	1		
Roofs and Roof-Ceiling	1		
Exterior Doors and Windows	N/A		
Stairway Construction	N/A		

LOCATION ON PROPERTY

Fire Resistive Requirements
(UBC Table 5-A, Section 503.2 & Sections 303 thru 312)

Occ.	Construction of Exterior Walls	Openings in Exterior Walls
B	Bearing 1.0-Hour Non-Bearing Same as Bearing	Not permitted < 5 ft Protected < 10 ft
R-3	Bearing 1.0-Hour Non-Bearing Same as Bearing	Not permitted < 3 ft

EGRESS

(UBC Chapter 10) Occupant Loads
(UBC Table 10-A)

Use	**Area**	**Occ. Load Factor**	**Occupant Load**	**Number of Exits Required**
Office	1600	100	16	1
Dwelling	3200	100	32	1
Total Occupant Load:		48		

Total Exit Width Required
(UBC 1003.2.3.2 and Table 5-B)

Use	Stairway Width Factor	Horizontal Component Width Factor	Occ. Load	Required Width
B	X 0.3	X 0.2	16	
R-3	X 0.3	X 0.2	32	
Total Required Exit Width:		xx		
Actual Exit Width:		xx		

Location of Exits
(UBC 1004.2.3 through 1004.2.6)

	Code Required Distance**	Increases Allowed for Sprinklers and Corridors***	Actual Distance
Separation*	1/2 Diagonal (UBC 1997) 1/3 Diagonal (IBC 2000)		
Travel Distance	200’	250’ (Sprinklered) 100’+ (Corridor)	
Dead Ends	20’		

*See UBC 1004.2.4 one-half the maximum overall diagonal dimension of the area served (there may be several)
**See UBC 1004.2.5.2
***See UBC 1004.5.2.2 & 1004.2.5.2.3

Exit Construction Requirements

Exit Components	Required Rating
Hallways (UBC 1004.3.3)	N/A
Corridors (UBC 1004.3.4)	1.0-Hour
Exit Enclosures (UBC 1005.3.3)	2.0-Hour
Exit Passageway (UBC 1005.3.4)	< 400' = 1.0-Hour > 400' = 2.0-Hour
Horizontal Exit (UBC 1005.3.5)	Wall = 2.0-Hour Openings = 1.5 Hour
Exterior Exit Balcony (UBC 1006.3.2)	N/A
Exterior Exit Stair (UBC 1006.3.3 & 4)	0.75-Hour
Exit Court (UBC 1006.3.5)	Walls = 1.0-Hour Openings = 0.75-Hour

10.4.2 HCDA DESIGN GUIDELINES >

The Land Use Ordinance (LUO) usually serves as the governing zoning ordinance for the City and County of Honolulu. The primary purpose of the LUO is to regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies. “It is the intention of the council that the provisions of the LUO provide reasonable development and design standards for the location, height, bulk, and size of structures, yard areas, off-street parking facilities, and open spaces, and the use of structures and land for agriculture, industry, business, residences or other purposes (LUO 1-1).

However, the district of Kakaako in urban Honolulu falls under different zoning ordinance. Instead of abiding by the City and County of Honolulu LUO, Kakaako is state governed by the Hawaii Community Development Authority (HCDA). The rules and regulations implemented by the HCDA are similar to the LUO and can be found in the Kakaako Community Development District: Mauka Area Plan

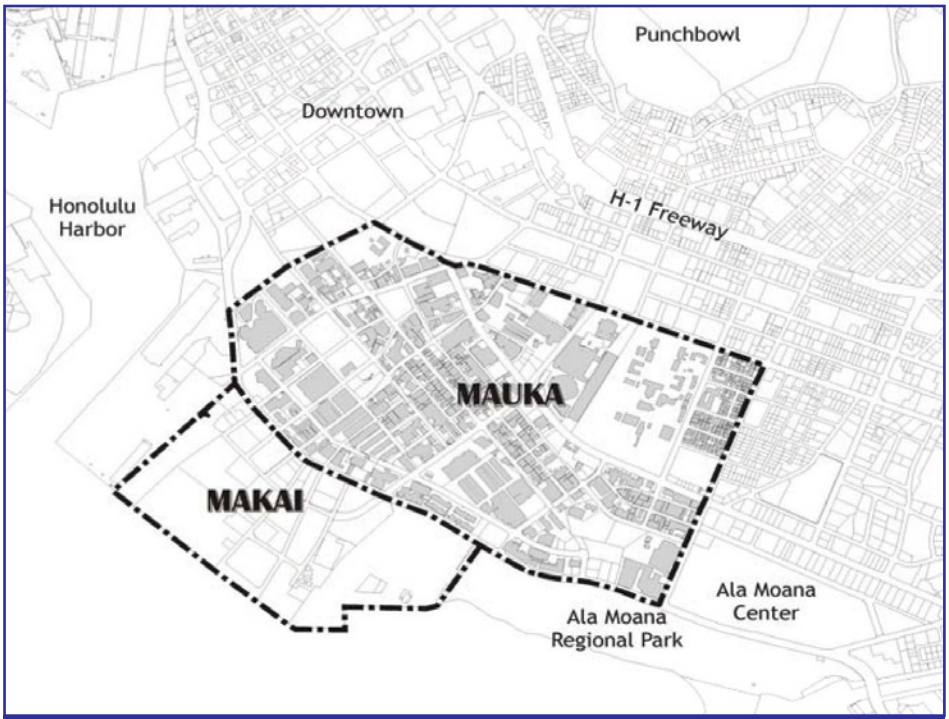


FIG. 43
HCDA Kakaako Mauka and Kakaako Makai Area Plan
<http://hcdaweb.org/kakaako/plans-rules/Mauka%20Plan.pdf>

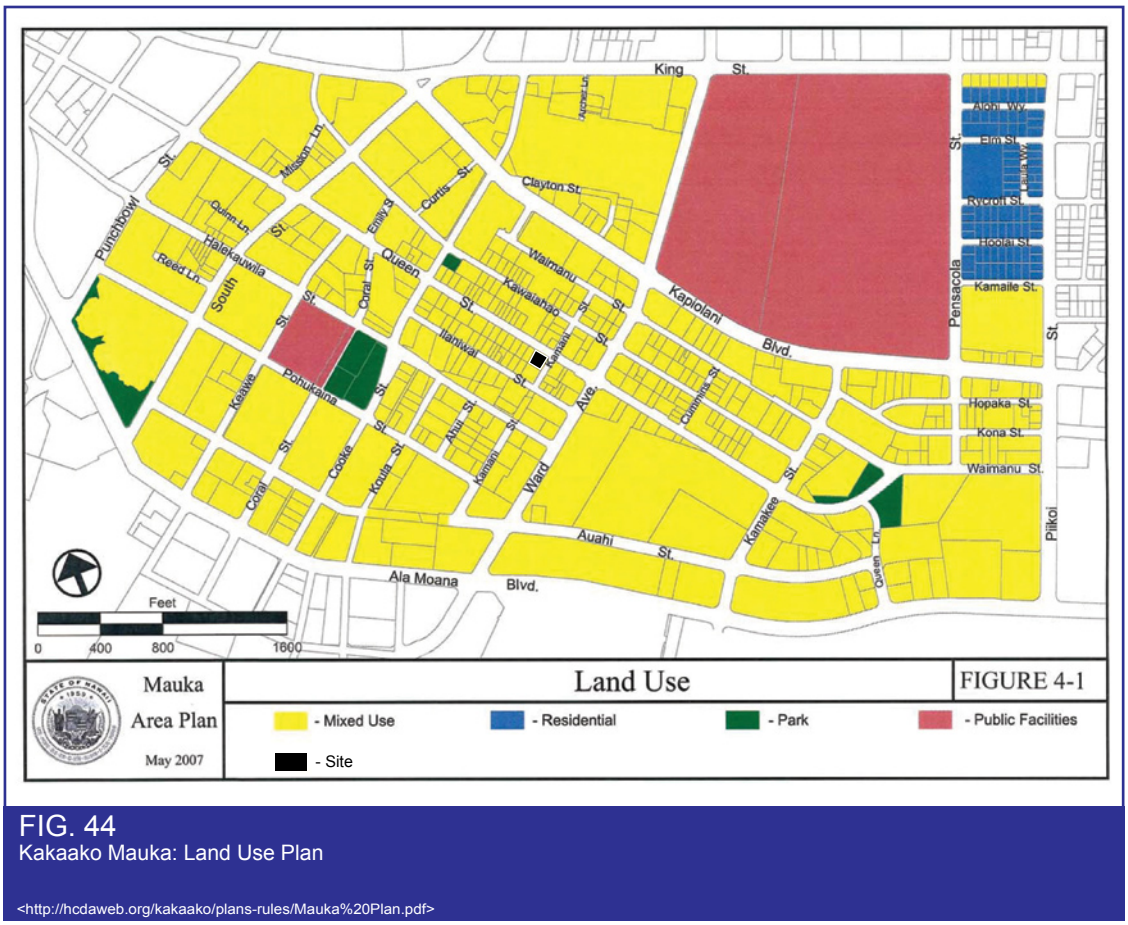


FIG. 44
Kakaako Mauka: Land Use Plan

<http://hcdaweb.org/kakaako/plans-rules/Mauka%20Plan.pdf>

Zoning	Kakaako Special District Mixed-Use Zone Residential (MUZ-R)
Permitted Uses	Residential Commercial Light Industrial
Minimum Lot Area	Varies
Minimum Lot Width & Depth	Varies

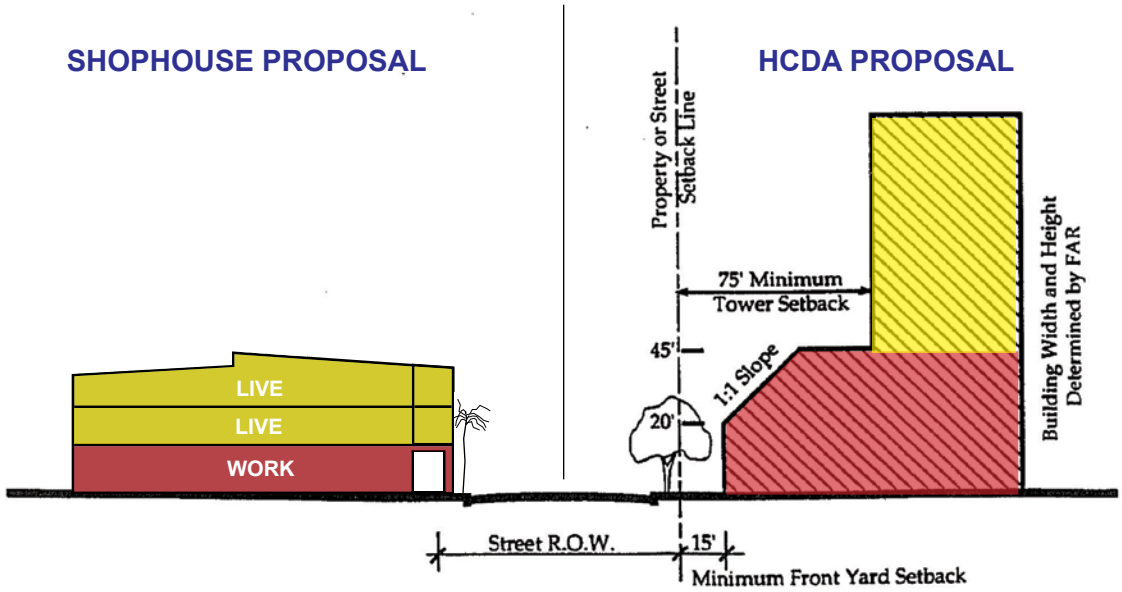


FIG. 45
Kakaako Mauka: Existing Setback

<http://hcdaweb.org/kakaako/plans-rules/>

REVISED RESTRICTIONS (SHOPHOUSE):

Yards	Central Kakaako - 0’ (+8’ above grade) Side and Rear Yard - 0’
Max. Building Area	N/A
Height Setbacks	45’ max. then 1:1 slope
Lot Area FAR	2.0
Height Limit	45’
Off Street Parking Requirements	Comm. 1 per 888 s.f. Resid. - 1.35 per unit
Off Street Loading	**<5,000 s.f. = 0**

EXISTING HCDA RESTRICTIONS:

Yards	Central Kakaako - 5’ Side and Rear Yard - 10’
Max. Building Area	N/A
Height Setbacks	20’ max. then 1:1 slope
Lot Area FAR	1.5
Height Limit	45’
Off Street Parking Requirements	Comm. - 1 per 444 s.f. Resid. - 1.35 per unit
Off Street Loading	**<5,000 s.f. = 0**

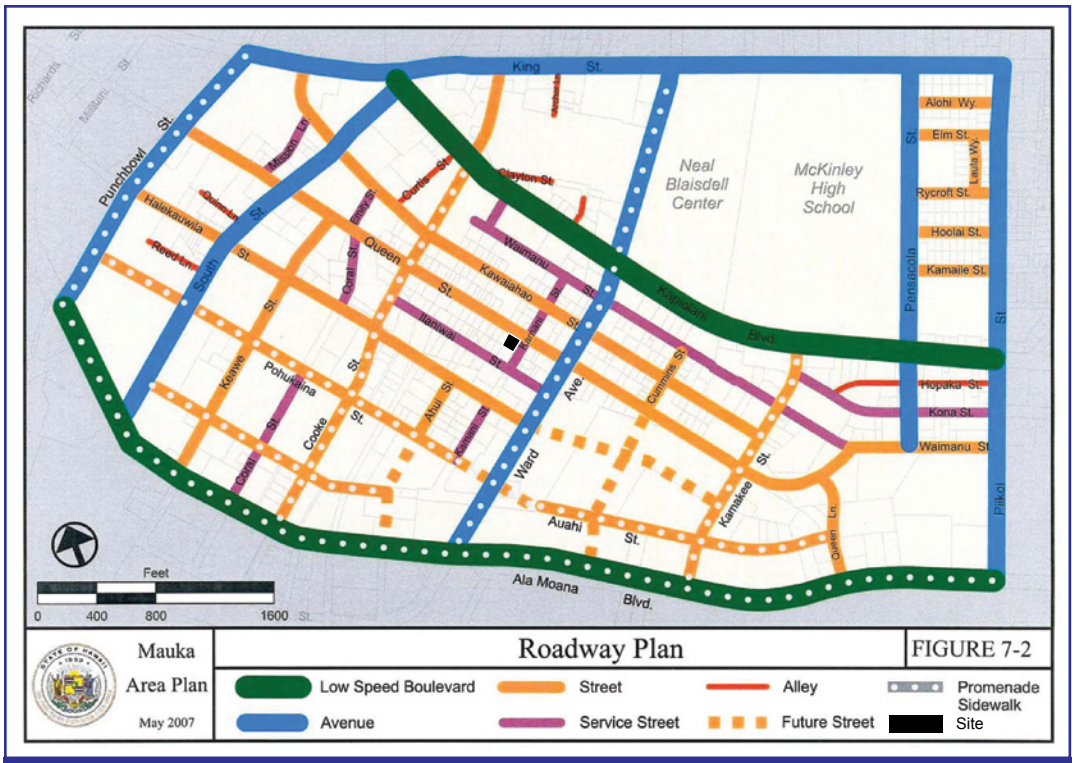


FIG. 46
HCDA Proposed Modifications: Roadway Plan

<http://hcdaweb.org/kakaako/plans-rules/Mauka%20Plan.pdf>

Modified Roads:

Ala Moana Boulevard
-Retain 6-through lanes and a left turn lane
-Add 20'-wide pedestrian realm on either side
-Add 10'-wide planter strip next to curb

Ward Avenue
-Retain 4-through lanes
-Add 8'-wide center median
(by reducing lane width to 10')
-Add 15'-wide pedestrian realm

Piikoi and Pensacola
-Return to two-way traffic up to King Street
-Two lanes in the former one-way direction; one lane traveling in the opposite direction
-Add center medians between opposing traffic lanes

Piikoi
-Bike lanes provided in both directions

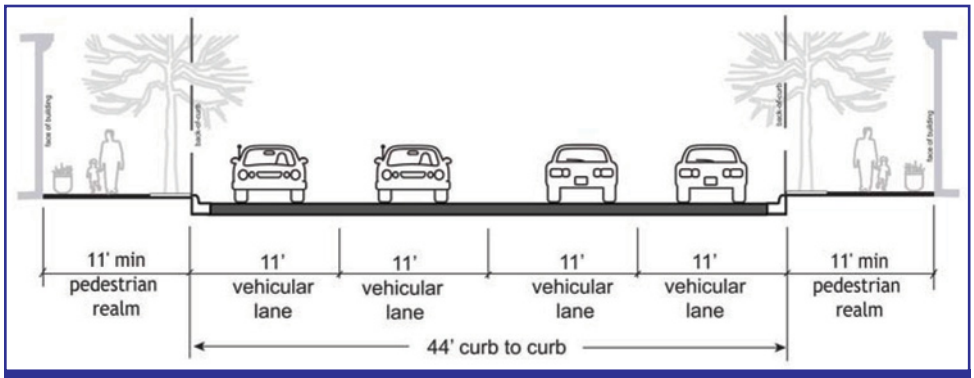


FIG. 47
HCDA Proposed Modifications: Queen Street
<http://hcdaweb.org/kakaako/plans-rules/Mauka%20Plan.pdf>

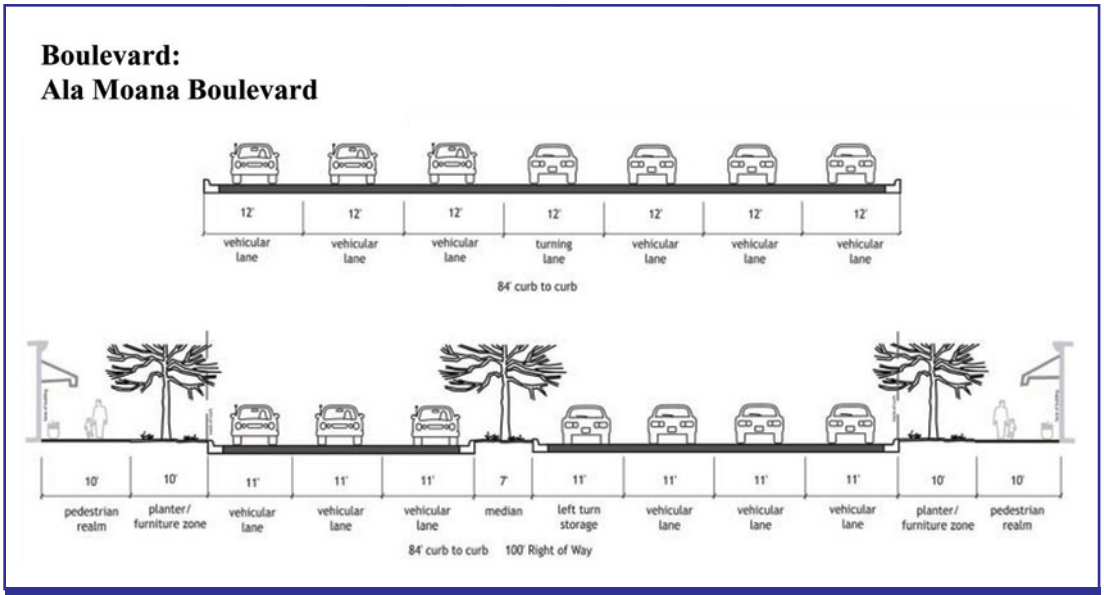


FIG. 48
HCDA Proposed Modifications: Ala Moana Boulevard
<http://hcdaweb.org/kakaako/plans-rules/Mauka%20Plan.pdf>

Ala Moana Boulevard
-Retain 6-through lanes and a left turn lane
-Add 20'-wide pedestrian realm on either side
-Add 10'-wide planter strip next to curb

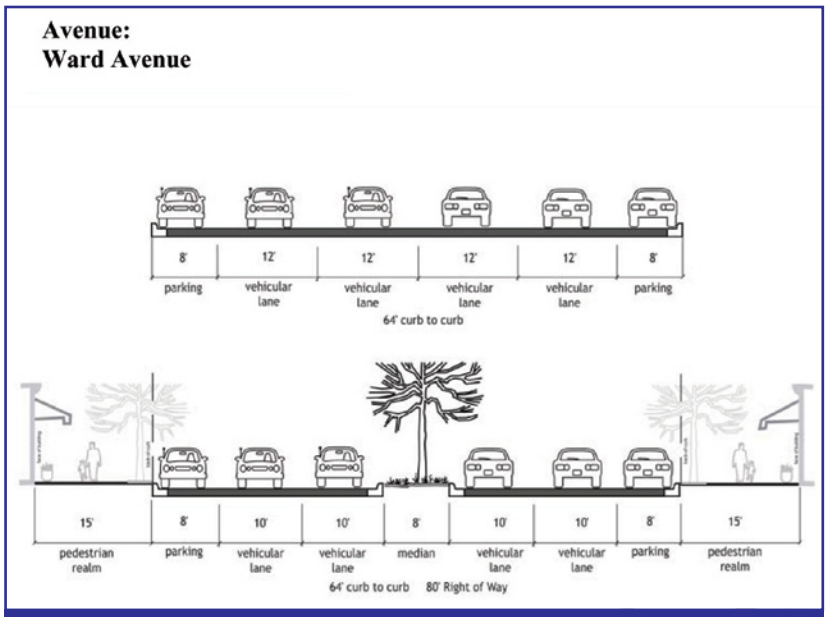


FIG. 49
HCDA Proposed Modifications: Ward Avenue
<http://hcdaweb.org/kakaako/plans-rules/Mauka%20Plan.pdf>

Ward Avenue
-Retain 4-through lanes
-Add 8'-wide center median
(by reducing lane width to 10')
-Add 15'-wide pedestrian realm

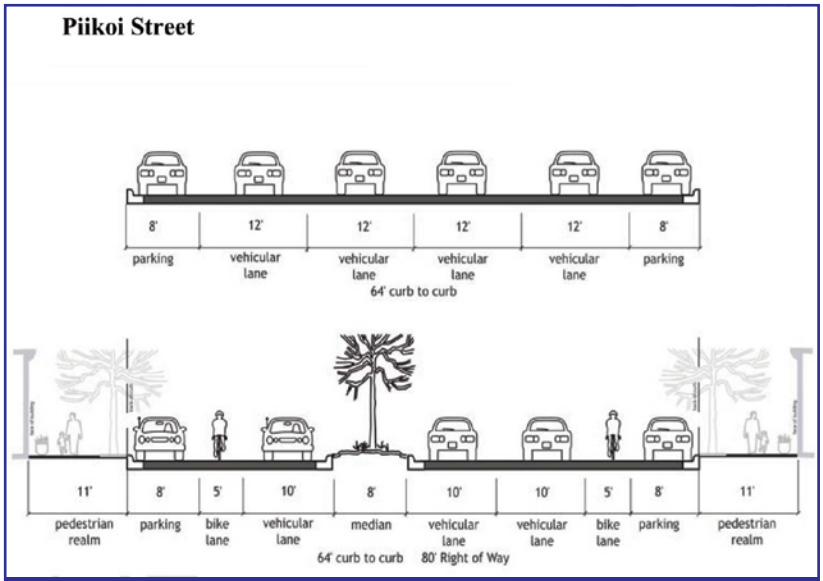


FIG. 50
HCDA Proposed Modifications: Piikoi Street
<http://hcdaweb.org/kakaako/plans-rules/Mauka%20Plan.pdf>

Piikoi Street
-Return to two-way traffic up to King Street
-Two lanes in the former one-way direction;
one lane traveling in the opposite direction
-Add center medians between opposing traffic lanes
-Bike lanes provided in both directions

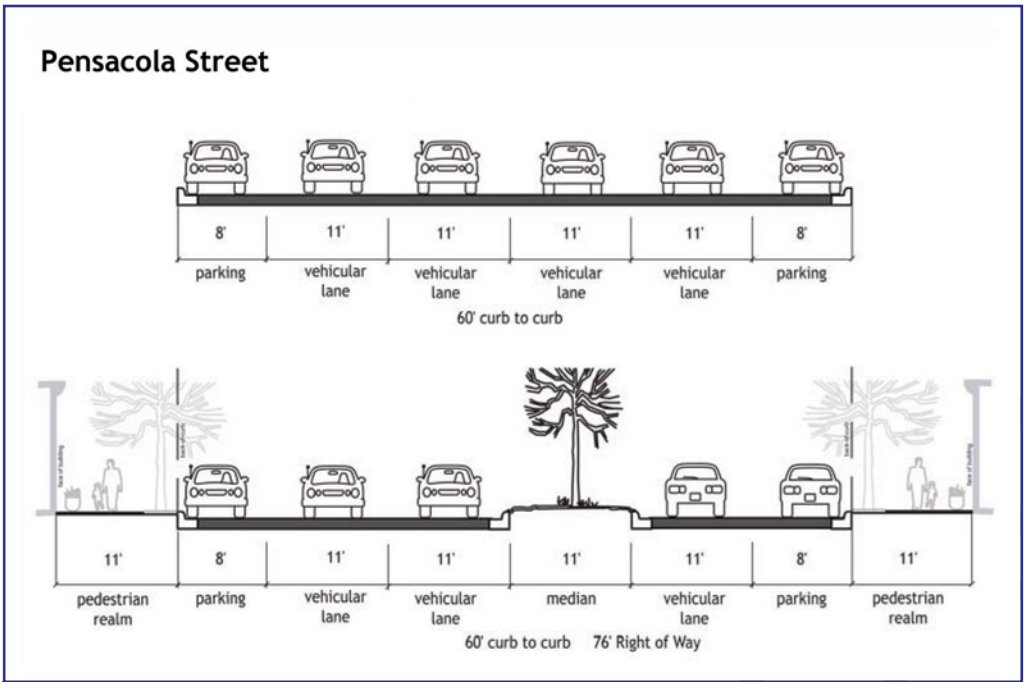


FIG. 51
HCDA Proposed Modifications: Pensacola Street
<http://hcdaweb.org/kakaako/plans-rules/Mauka%20Plan.pdf>

Pensacola Street
-Return to two-way traffic up to King Street
-Two lanes in the former one-way direction;
one lane traveling in the opposite direction
-Add center medians between opposing traffic lanes

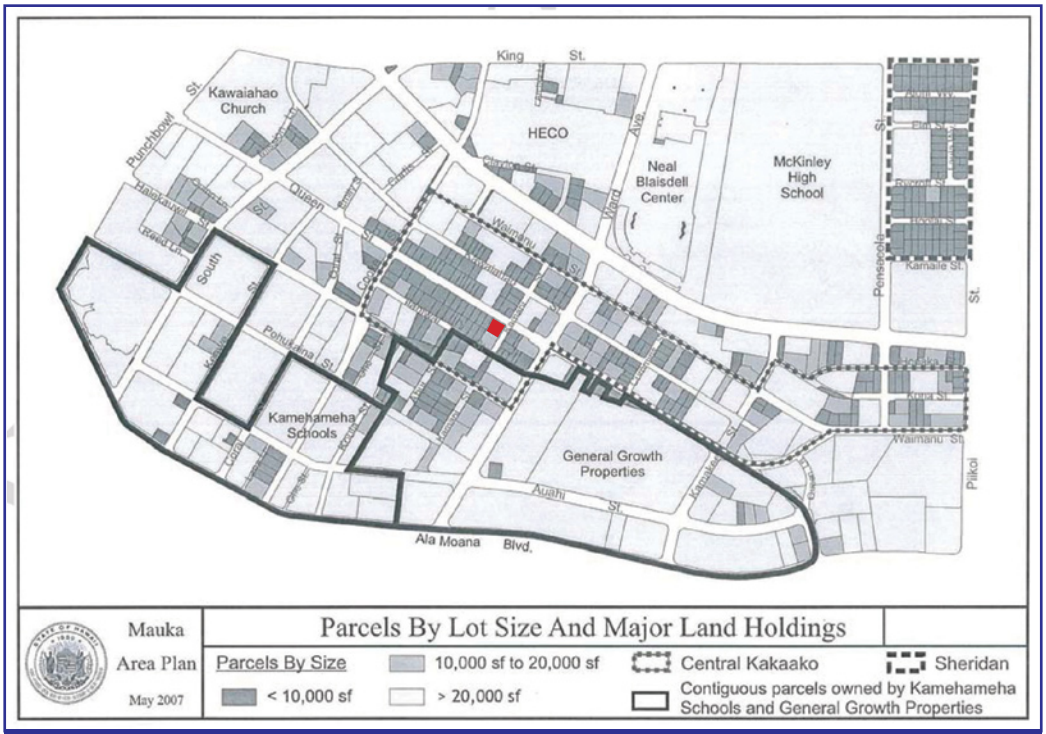


FIG. 52
Kakaako Mauka: Property Map by Lot Size
<http://hcdaweb.org/kakaako/plans-rules/Mauka%20Plan.pdf>

SHOPHOUSES FOR HONOLULU: INTEGRATING LIVE-WORK SPACES IN AN URBAN ENVIRONMENT

+ Proposed redevelopment for shophouses along Queen Street (intersection of Queen Street and Kamani Street) (Tsutomi)

VALIDATING THE NEED FOR THE SHOPHOUSE IN HONOLULU

11.0

PART 2: DESIGN PROPOSAL

11.0 DESIGN >

The following pages showcase the integration of a live-work space along Queen Street in Central Kakaako. The shophouse design is a three story structure that incorporates working space on the ground level and living spaces on the second and third levels. There is a hierarchical order to the structure in that the lowest floor is the most public and the uppermost floor is the most private.

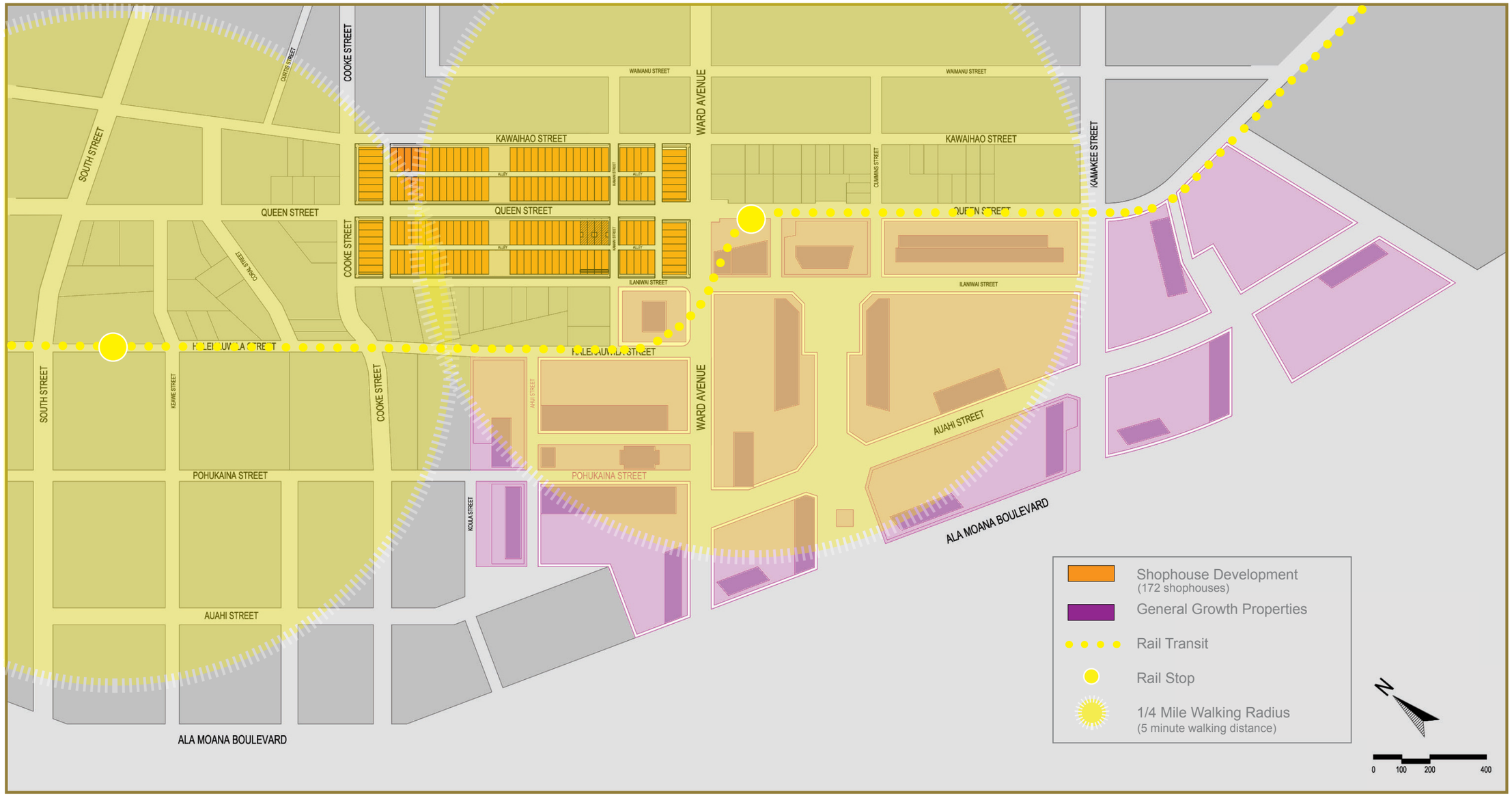
There are two primary live-work structure types. The two designs are ultimately quite similar, however, the front and rear facades are where the two models differ. The first model, Model-A, has an enhanced indoor-outdoor connectivity aimed toward businesses and tenants that prefer a seamless melding with the five-foot way. The second model, Model-B, has a reduced indoor-outdoor connectivity more suited for businesses and tenants that do not want to directly intermingle with the five-foot way.

Both Model-A and Model-B have the ability to be both corner units or mid-block units. However, to show the corner location versus the mid-block location, Model-A is designated as the corner unit while Model-B is the adjacent unit.

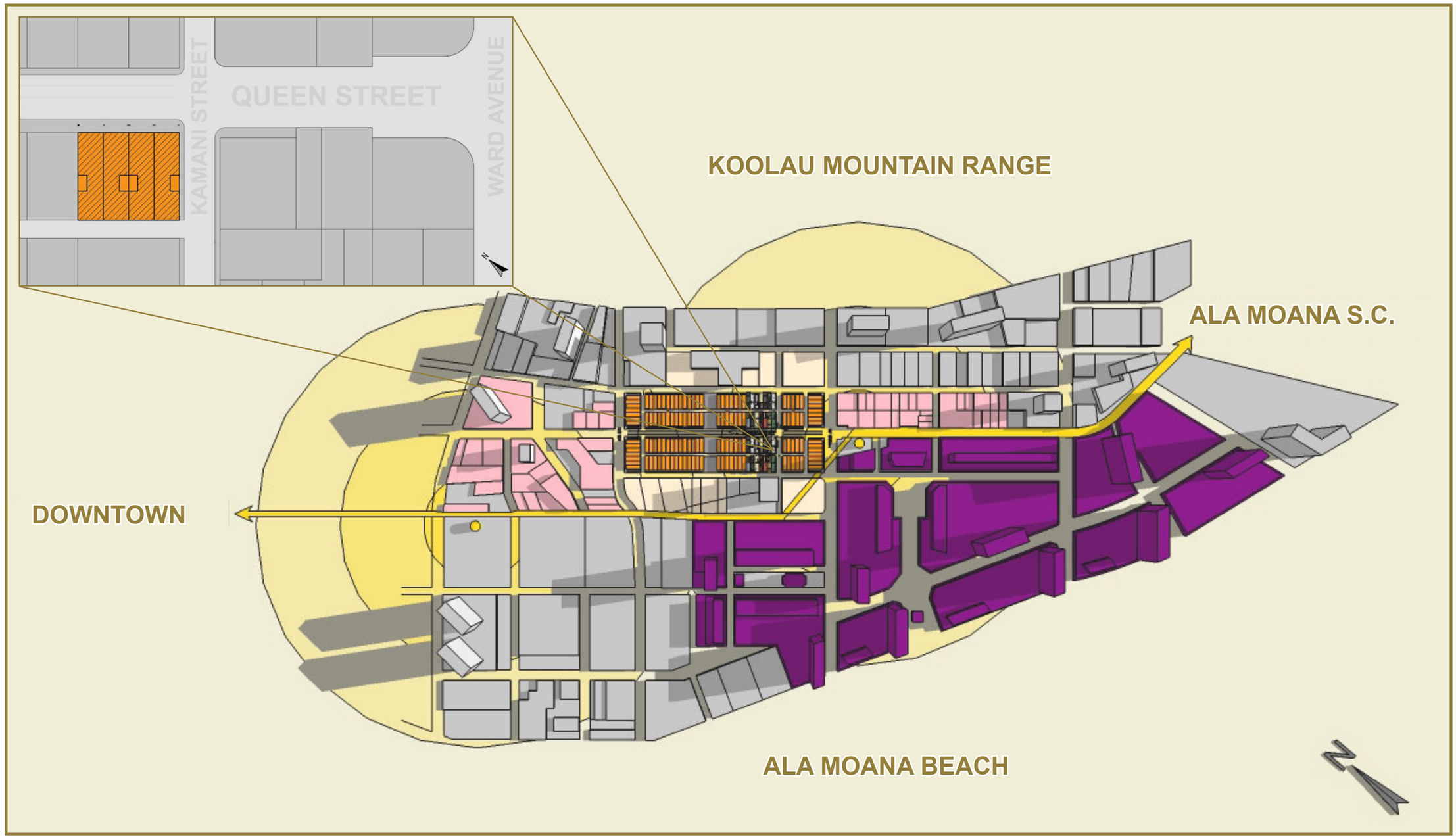
Model Types:

A- Greater indoor-outdoor connectivity
-This unit happens to be, but is not restricted to being a corner unit (Hence, the side wall windows)

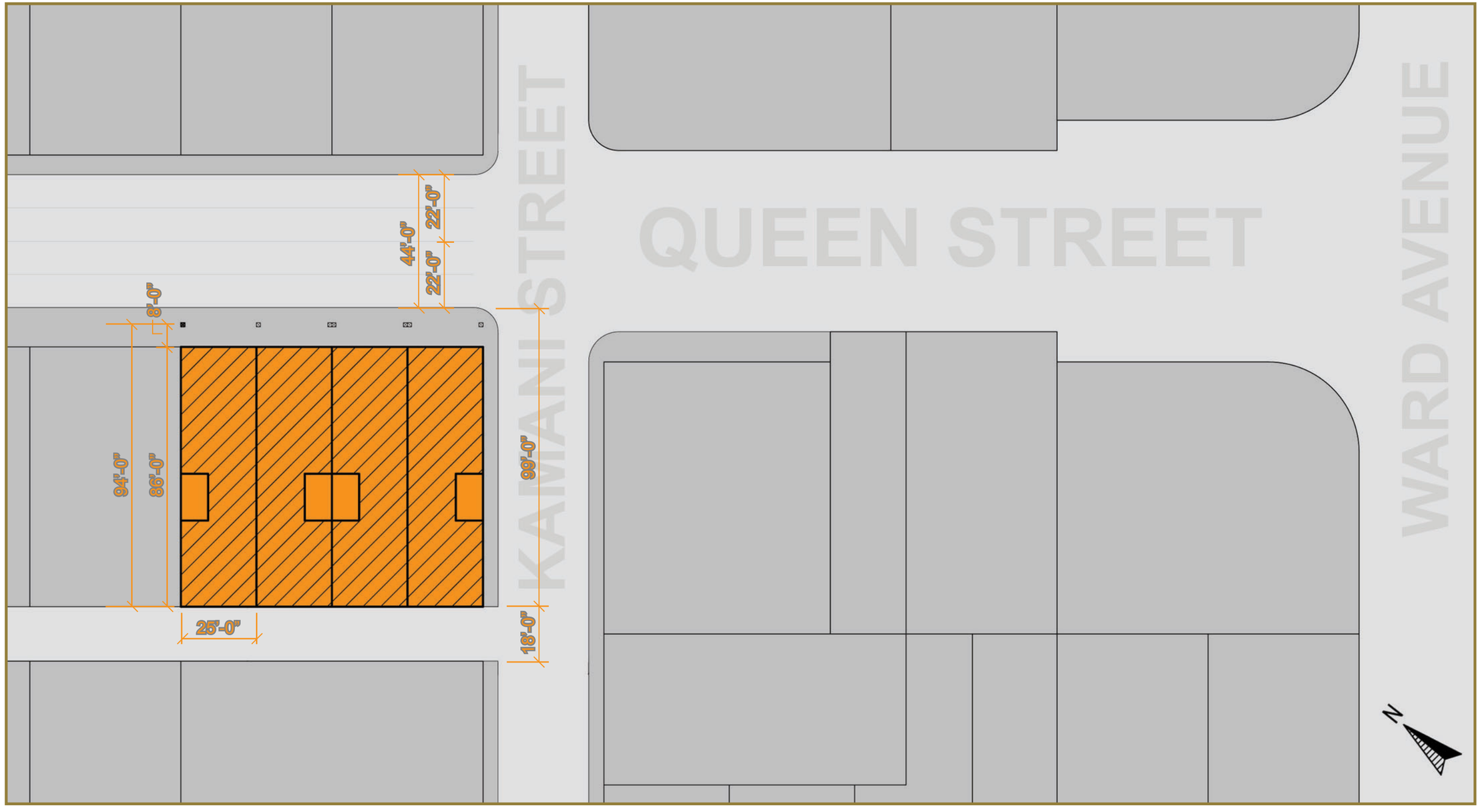
B- Lesser indoor-outdoor connectivity
-This unit happens to be adjacent to the corner unit, but is not restricted to only being located mid-block.



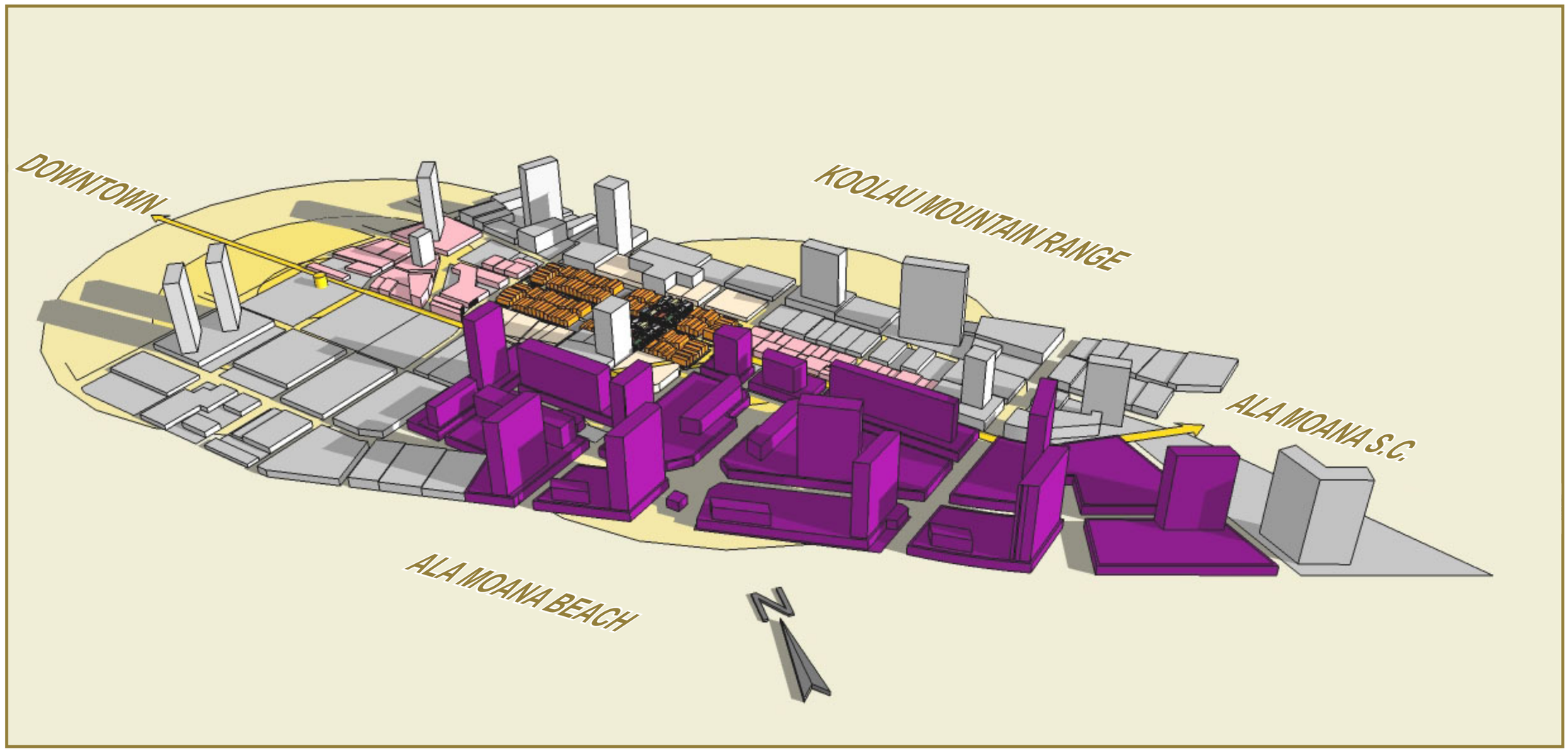
11.1 SITE PLAN >



11.1 SITE PLAN >

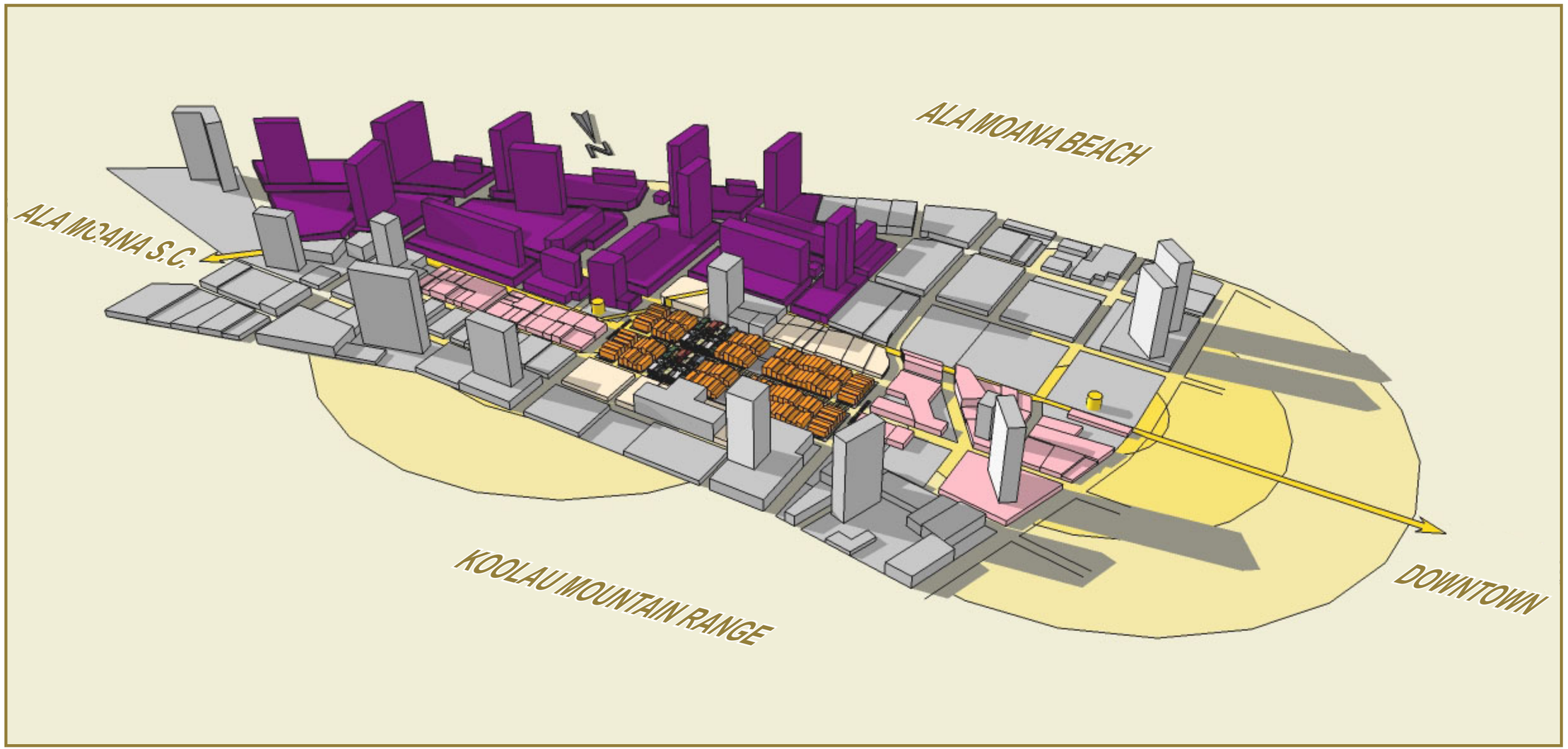


11.1 SITE PLAN >



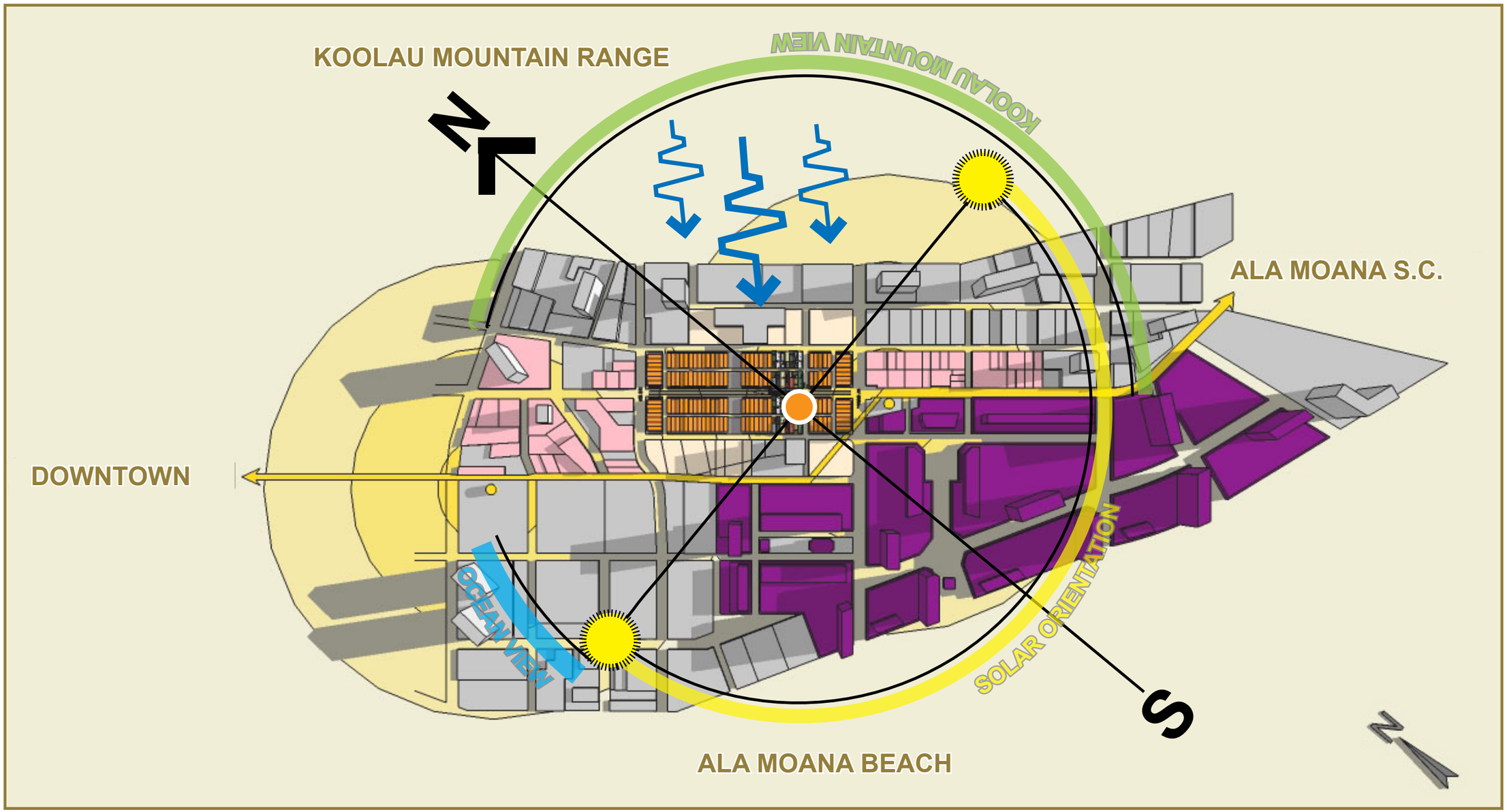
SOUTHEAST CORNER

11.1 *SITE PLAN* >



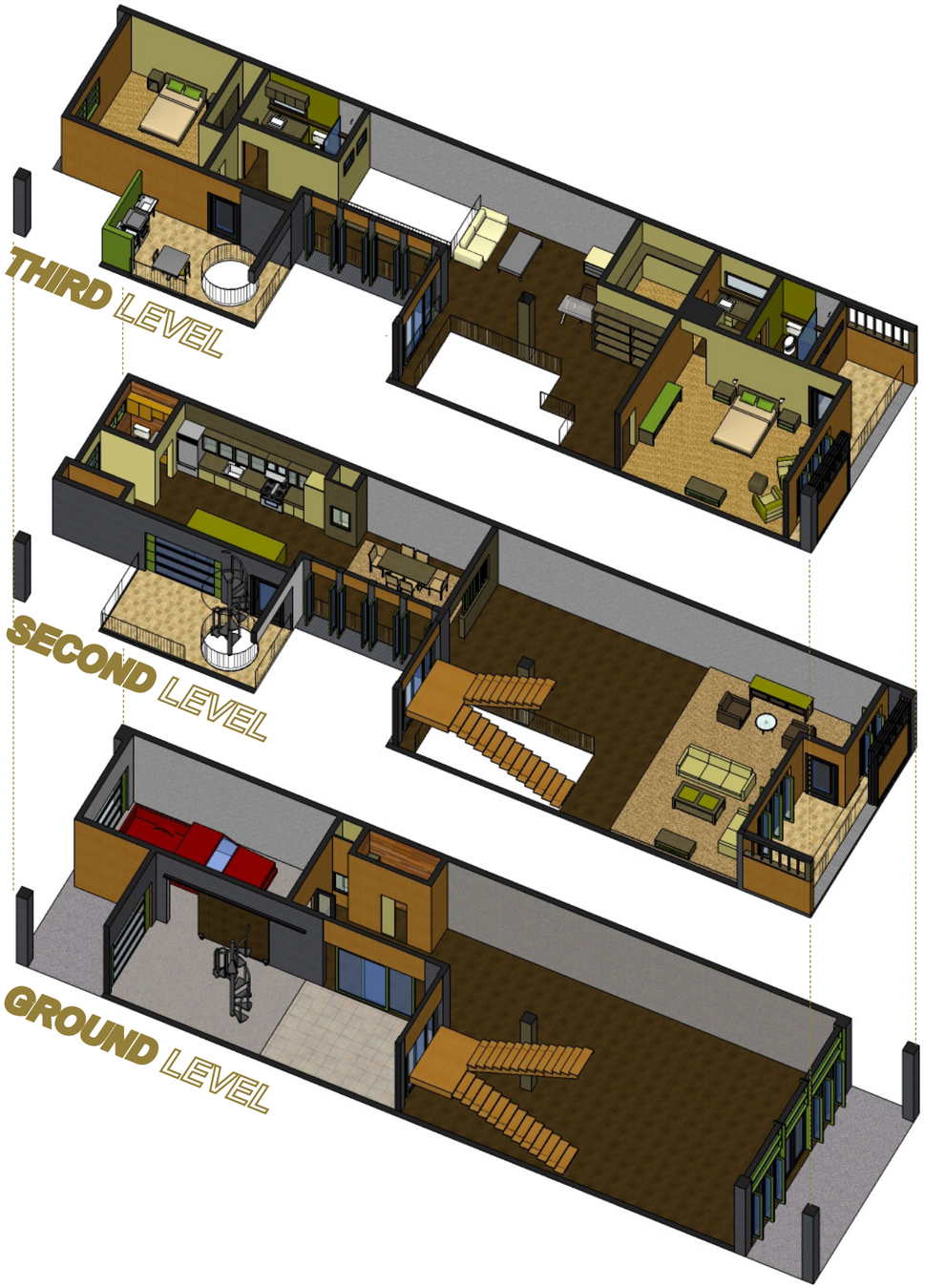
NORTHWEST CORNER

11.1 SITE PLAN >



11.2 SOLAR PATH+WIND DIRECTION+VIEW CORRIDOR PLAN >

11.3 MODEL - A >



CONCEPT characteristics:

1-BUILDING TO CITY BLOCK 25’-0”w x 94’-0”d x 44’-0”h enables shophouse to blend with the surrounding built environment while creating own unique sense of place

2-BUILDING TO STREET Zero building setback, 8’-way, upper floors, columns, and common party wall help establish a lively dynamic between the building and the street

3-PUBLIC TO PRIVATE 8’-way frames the street and provides exceptional pedestrian space for alfresco shopping, dining, and other leisure activities

4-LIVING TO WORKING Flexible and open floor plan allows the occupant the ability to semi-dictate the degree of emphasizing or deemphasizing the boundary between living and working conditions

5-INDOOR TO OUTDOOR Movable, sliding, and pivoting windows, doors, and panels allow greater control to blur the barrier between the indoors and the outdoors while the airwell and 4-decks provide numerous inside-outside conditions

FRONT
PERSPECTIVE

AIRWELL *PERSPECTIVE*
LOOKING TOWARD BUILDING FRONT

AIRWELL *PERSPECTIVE*
LOOKING TOWARD BUILDING REAR

REAR
PERSPECTIVE

CONCEPT characteristics:

1-BUILDING TO CITY BLOCK	25’-0”w x 94’-0”d x 44’-0”h enables shophouse to blend with the surrounding built environment while creating own unique sense of place
2-BUILDING TO STREET	Zero building setback, 8’-way, upper floors, columns, and common party wall help establish a lively dynamic between the building and the street
3-PUBLIC TO PRIVATE	8’-way frames the street and provides exceptional pedestrian space for alfresco shopping, dining, and other leisure activities
4-LIVING TO WORKING	Flexible and open floor plan allows the occupant the ability to semi-dictate the degree of emphasizing or deemphasizing the boundary between living and working conditions
5-INDOOR TO OUTDOOR	Movable, sliding, and pivoting windows, doors, and panels allow greater control to blur the barrier between the indoors and the outdoors while the airwell and 4-decks provide numerous inside-outside conditions

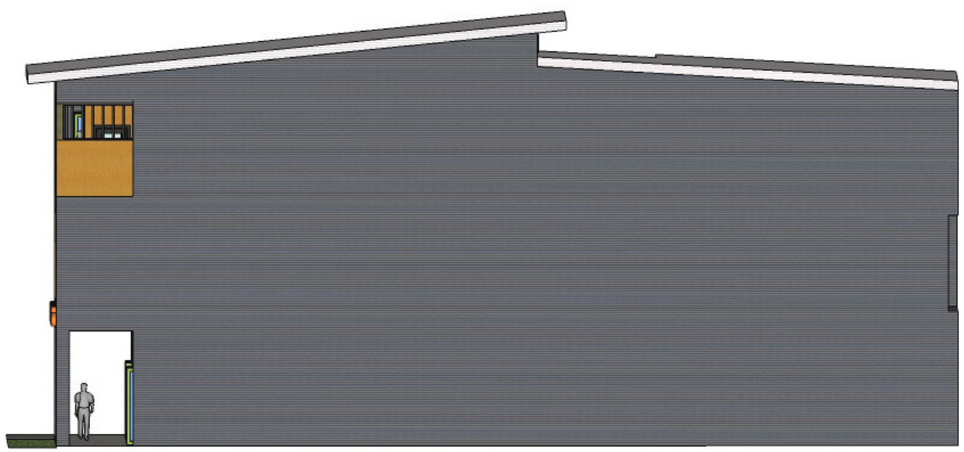
11.3 *MODEL - A* **>**

FRONT ELEVATION
OPEN GROUND LEVEL & UPPER LEVEL FACADE

FRONT ELEVATION
CLOSED GROUND LEVEL & UPPER LEVEL FACADE

REAR ELEVATION

LEFT ELEVATION

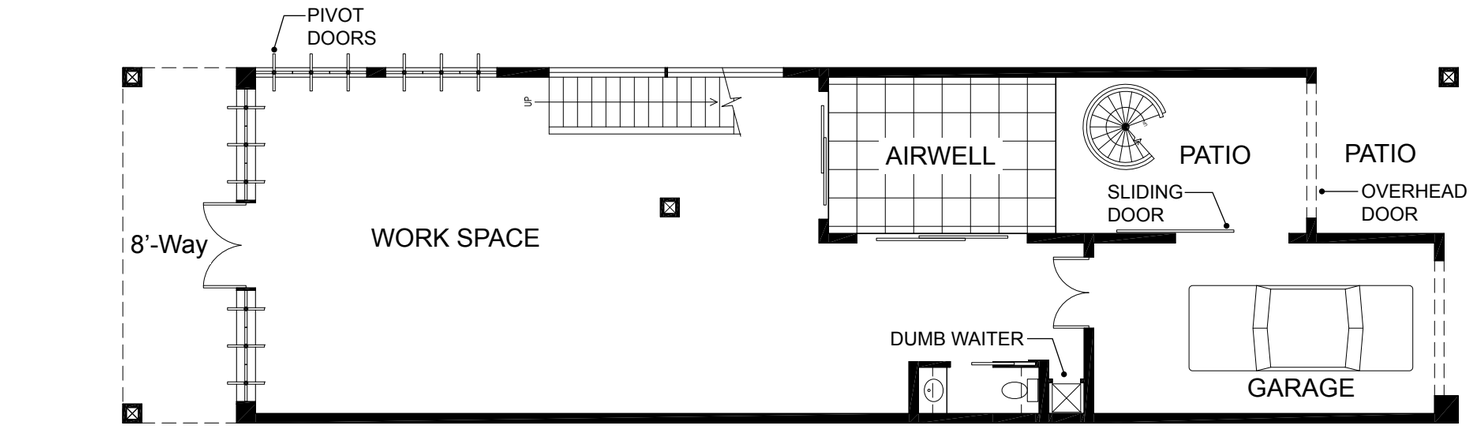


RIGHT ELEVATION

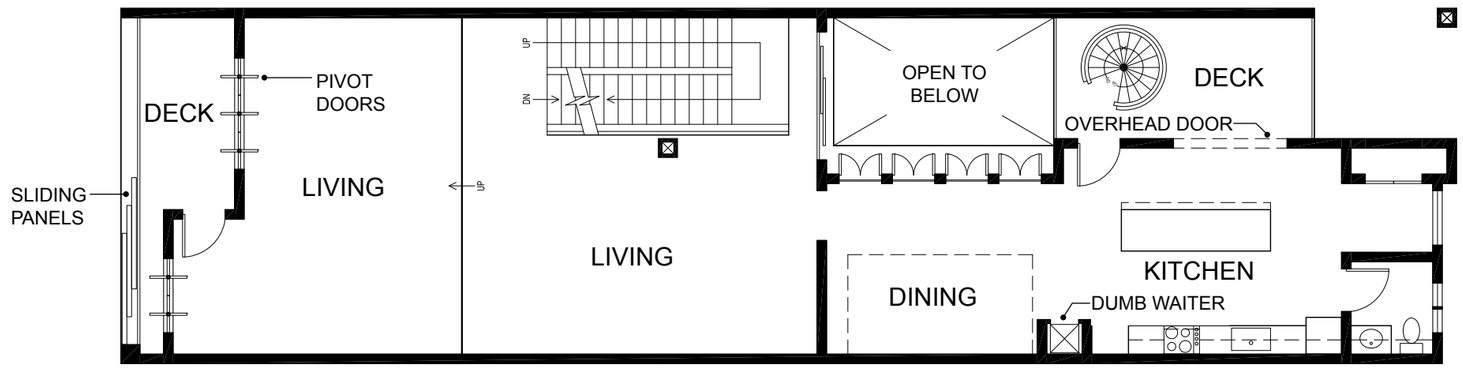
11.3 MODEL - A >

QUEEN STREET

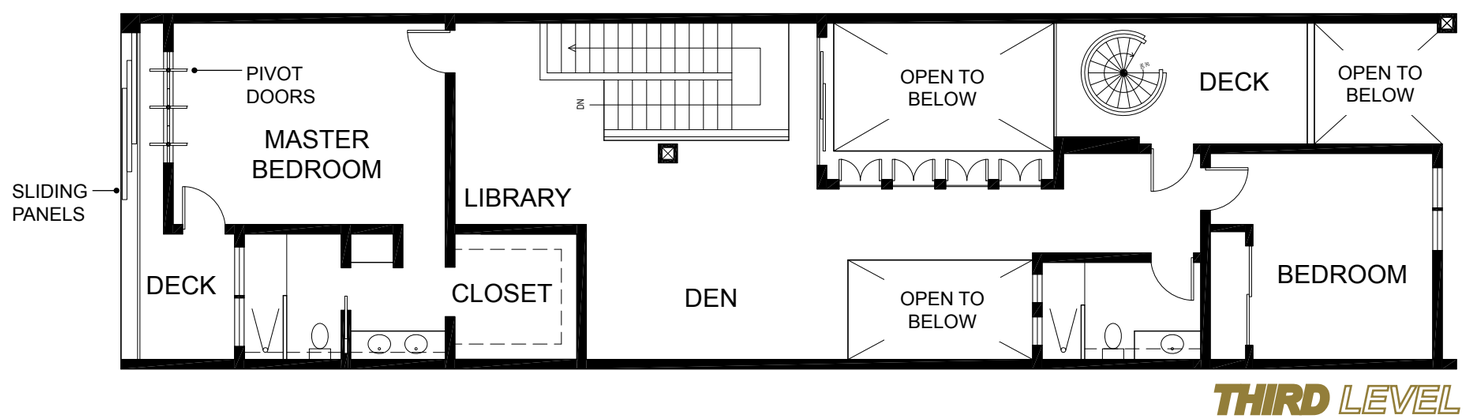
REAR ALLEY



GROUND LEVEL



SECOND LEVEL

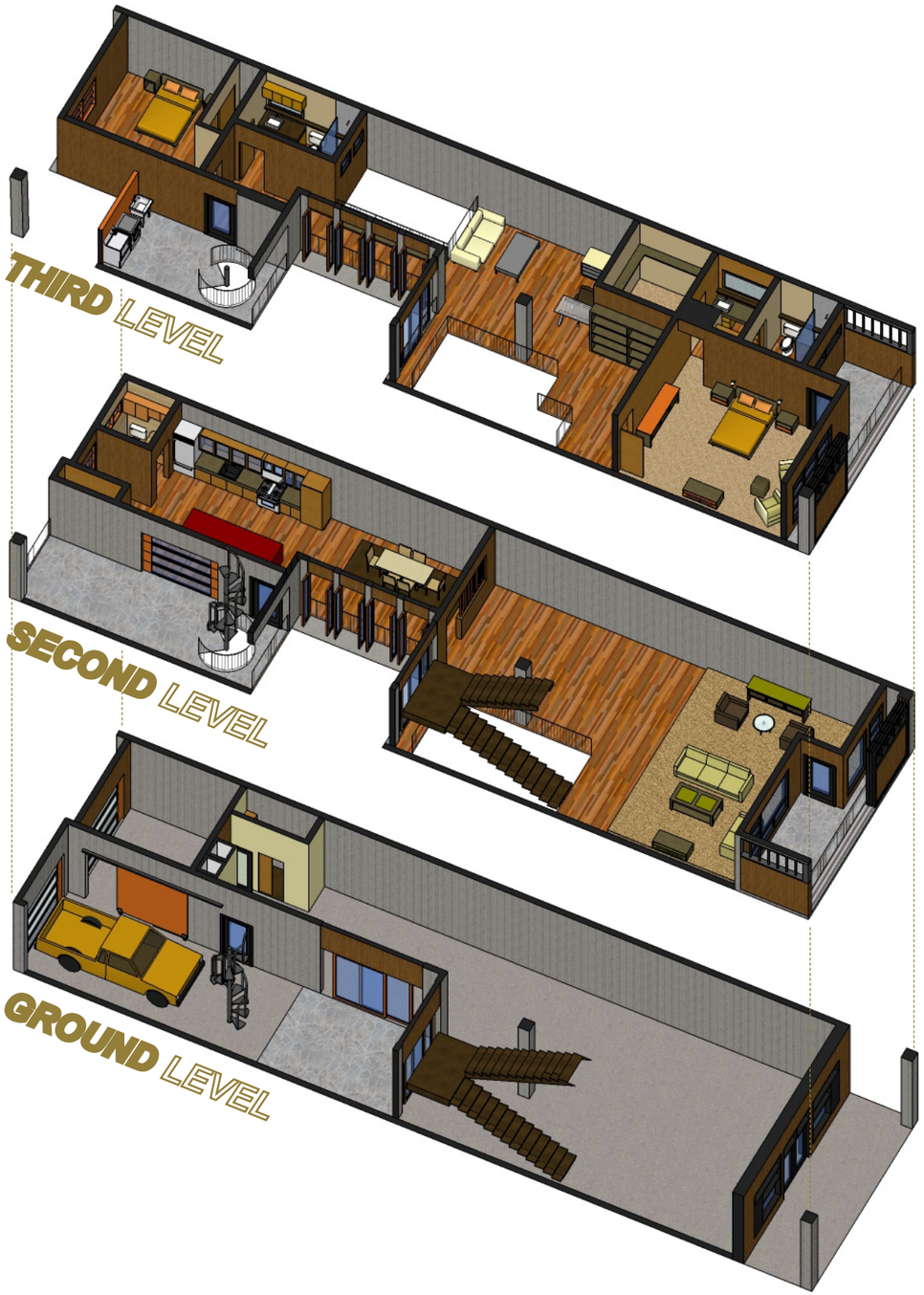


THIRD LEVEL

MODEL-A:

-FIRST LEVEL Area:	
-8'-Way	**200 sf**
-Work Space	**1160 sf**
-Airwell	**176 sf**
-Patio	**297 sf**
-Garage	**288 sf**
	2121 sf
-SECOND LEVEL Area:	
-Deck	**107 sf**
-Living	**862 sf**
-Dining	**178 sf**
-Kitchen-Bath	**393 sf**
-Deck	**153 sf**
	1693 sf
-THIRD LEVEL Area:	
-Deck	**84 sf**
-Master Bed	**488 sf**
-Library-Den	**489 sf**
-Deck	**148 sf**
-Bath	**76 sf**
-Bedroom	**227 sf**
	1512 sf
Total =	**5326 sf**

11.4 MODEL - B >



CONCEPT characteristics:

1-BUILDING TO CITY BLOCK 25’-0”w x 94’-0”d x 42’-0”h enables shophouse to blend with the surrounding built environment while creating own unique sense of place

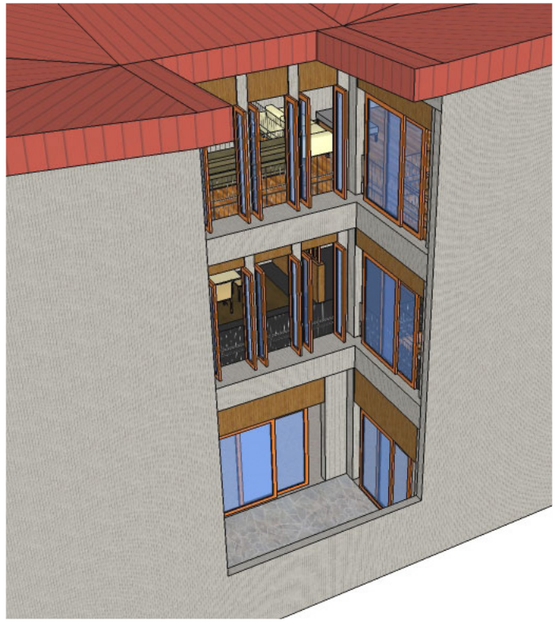
2-BUILDING TO STREET Zero building setback, 8’-way, upper floors, columns, and common party wall help establish a lively dynamic between the building and the street

3-PUBLIC TO PRIVATE 8’-way frames the street and provides exceptional pedestrian space for alfresco shopping, dining, and other leisure activities

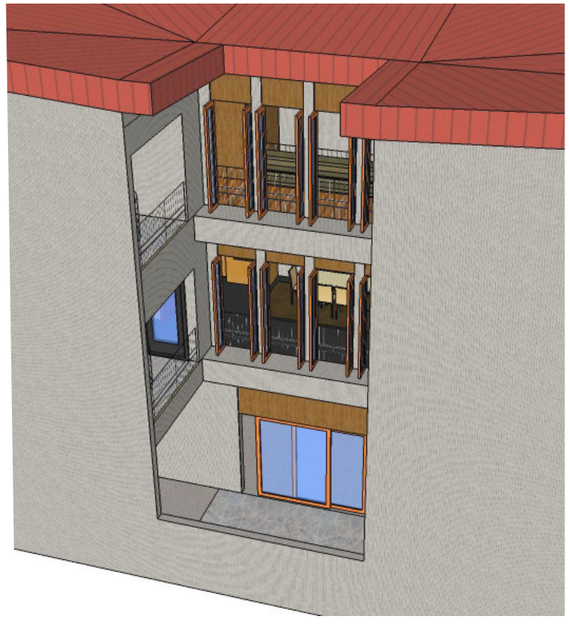
4-LIVING TO WORKING Flexible and open floor plan allows the occupant the ability to semi-dictate the degree of emphasizing or deemphasizing the boundary between living and working conditions

5-INDOOR TO OUTDOOR Vast amount of windows, sliding doors and panels allow greater control to blur the barrier between the indoors and the outdoors while the airwell and 4-decks provide numerous inside-outside conditions

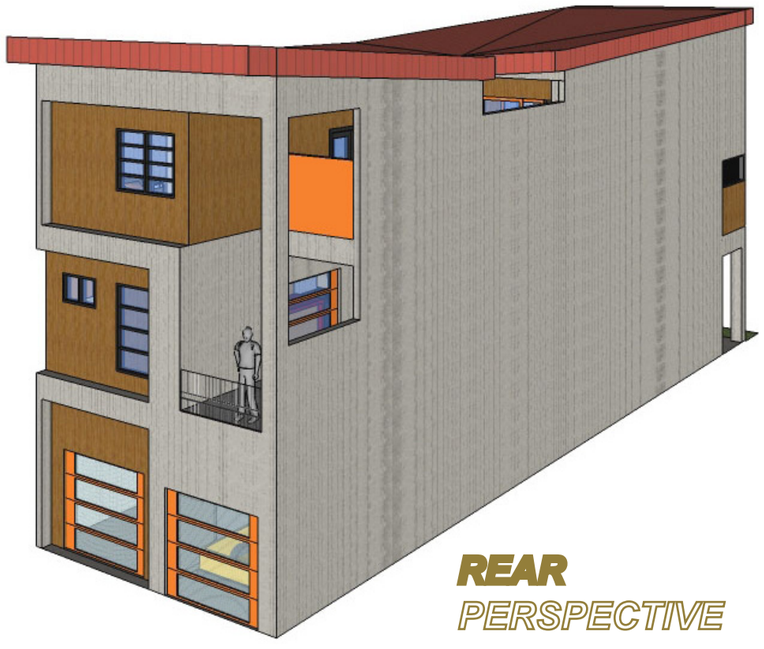
FRONT
PERSPECTIVE



AIRWELL *PERSPECTIVE*
LOOKING TOWARD BUILDING FRONT



AIRWELL *PERSPECTIVE*
LOOKING TOWARD BUILDING REAR



REAR
PERSPECTIVE

CONCEPT characteri stics:

1-BUILDING TO CITY BLOCK	25’-0”w x 94’-0”d x 42’-0”h enables shophouse to blend with the surrounding built environment while creating own unique sense of place
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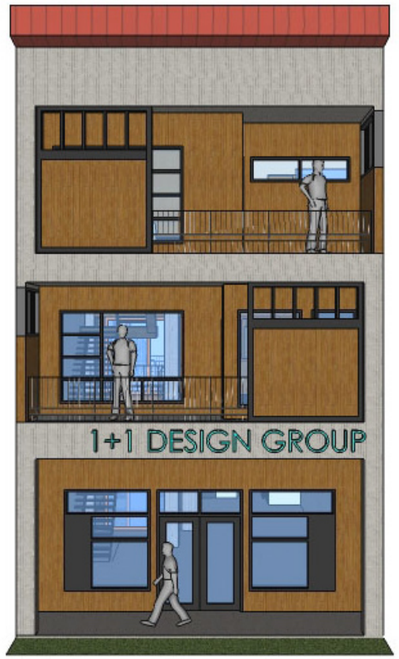
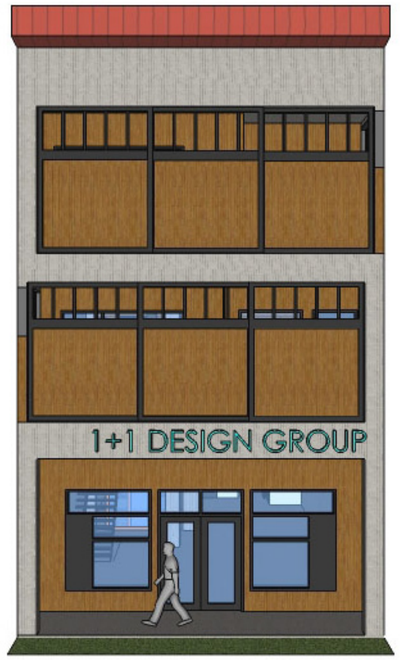
11.4 *MODEL - B* >>

11.4 MODEL - B >

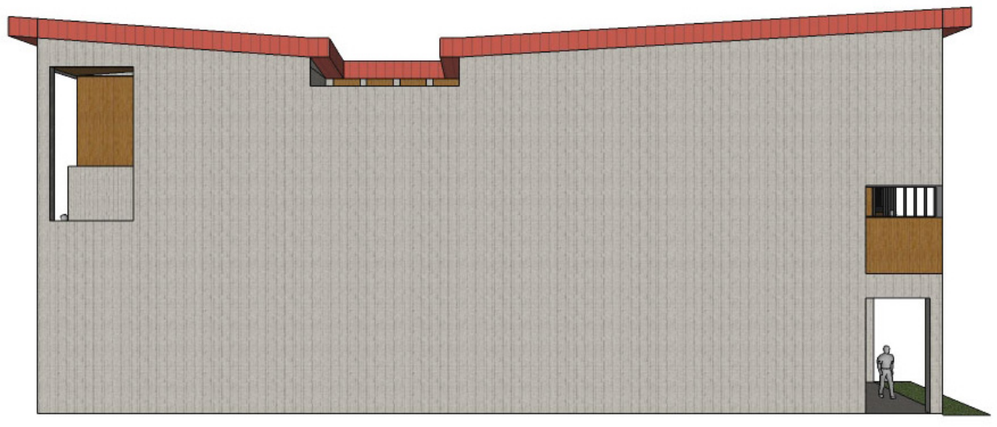


FRONT ELEVATION
OPEN UPPER LEVEL FACADE

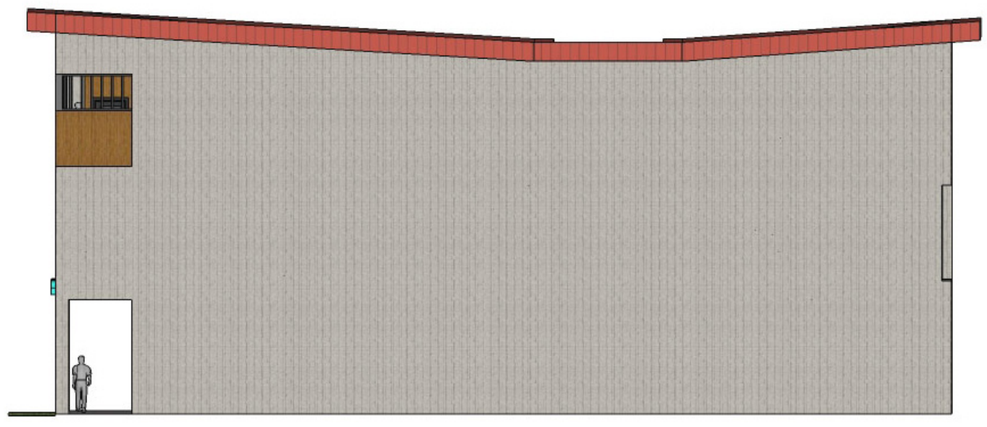


FRONT ELEVATION
CLOSED UPPER LEVEL FACADE

REAR ELEVATION



LEFT ELEVATION

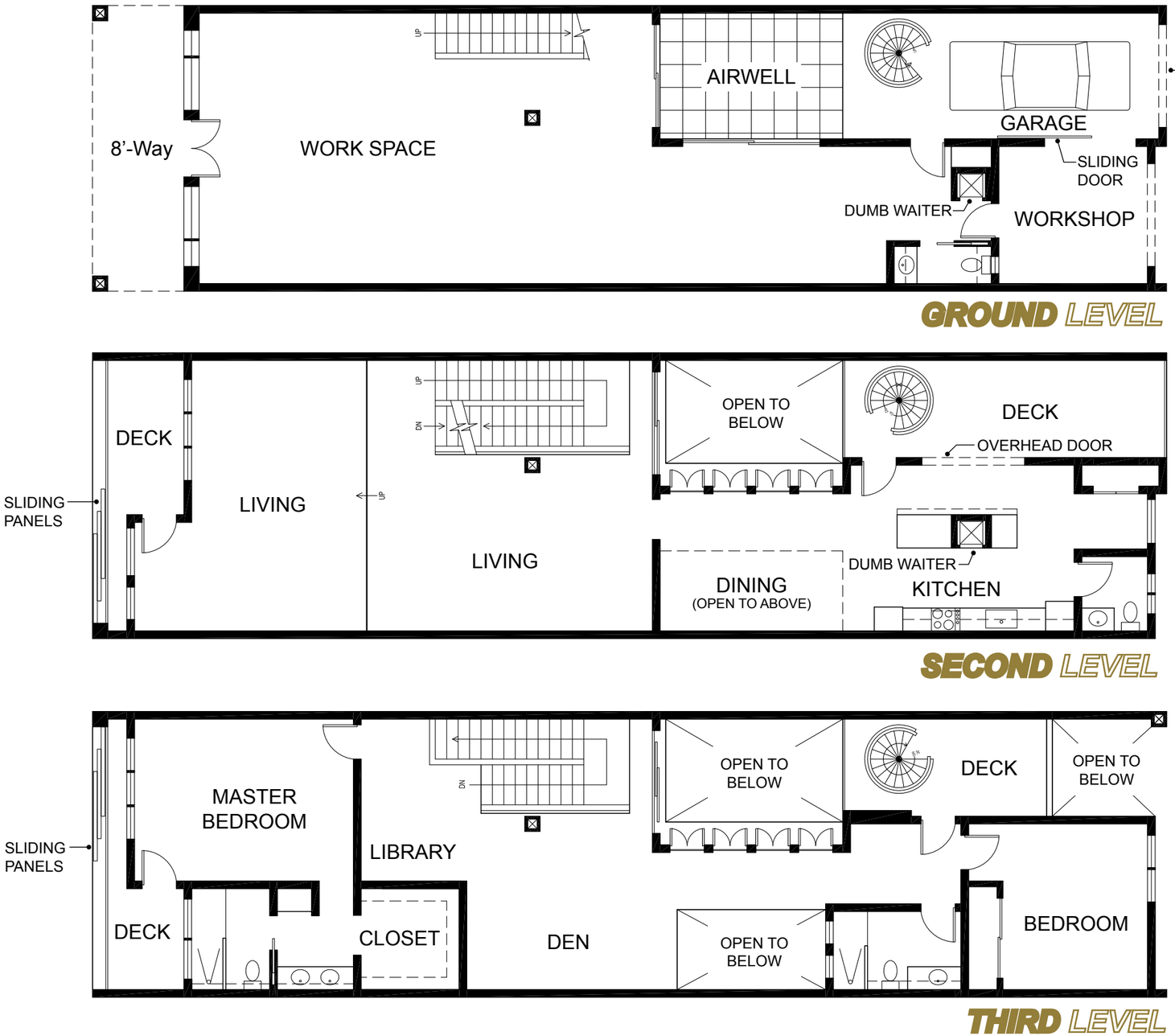


RIGHT ELEVATION

11.4 MODEL - B >

QUEEN STREET

REAR ALLEY



MODEL-B:

-FIRST LEVEL Area:	
-8'-Way	**200 sf**
-Work Space	**1295 sf**
-Airwell	**176 sf**
-Garage	**304 sf**
-Workshop	**156 sf**
	2131 sf
-SECOND LEVEL Area:	
-Deck	**107 sf**
-Living	**862 sf**
-Dining	**200 sf**
-Kitchen-Bath	**377 sf**
-Deck	**238 sf**
	1784 sf
-THIRD LEVEL Area:	
-Deck	**84 sf**
-Master Bed	**488 sf**
-Library-Den	**489 sf**
-Deck	**148 sf**
-Bath	**76 sf**
-Bedroom	**227 sf**
	1512 sf
Total =	**5427 sf**

GROUND LEVEL *FRONT ENTRY*

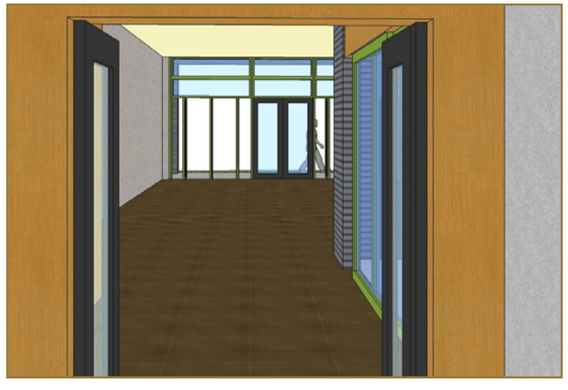
FRONT FACADE WITH PIVOT DOORS; WORK SPACE DIRECTLY INSIDE

GROUND LEVEL *WORKSPACE*

WORK SPACE WITH STAIRWAY AND AIRWELL ON LEFT; GARAGE AT REAR RIGHT

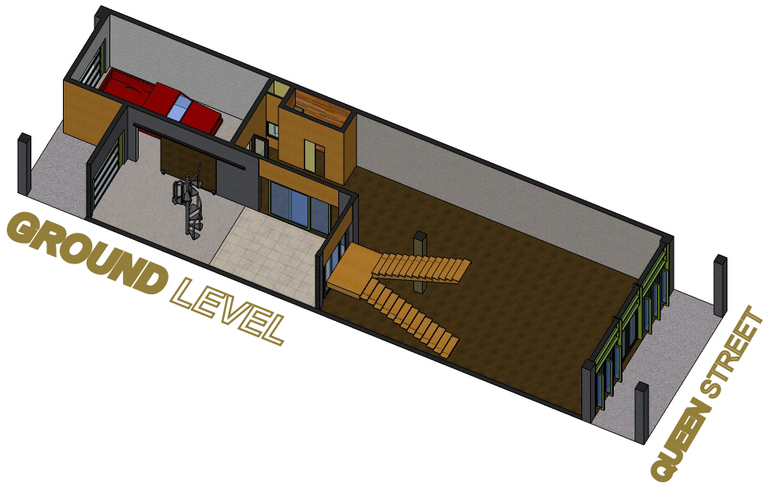
REAR PATIO *AND AIRWELL*

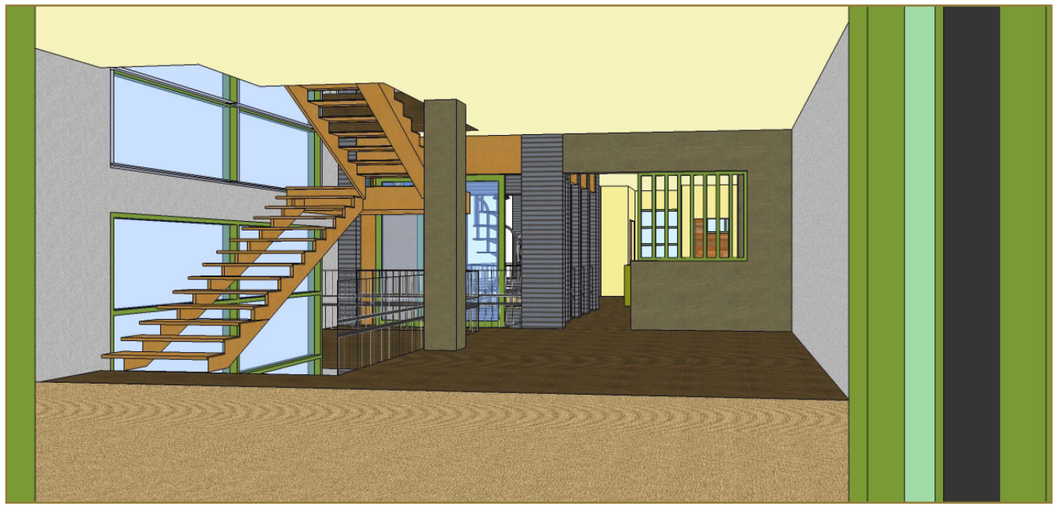
INSIDE AND OUTSIDE PATIO CAN BE COMBINED ALONG WITH AIRWELL; SLIDING PANEL ON LEFT TO GARAGE



REAR *ENTRY*

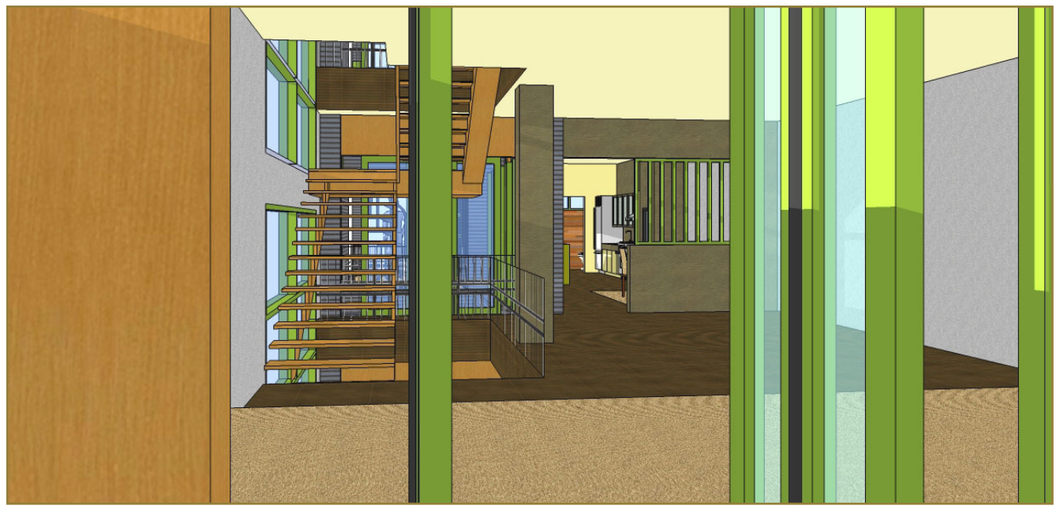
VIEW FROM GARAGE LOOKING TOWARD WORK SPACE; GREEN DOORS ON RIGHT LEAD TO AIRWELL





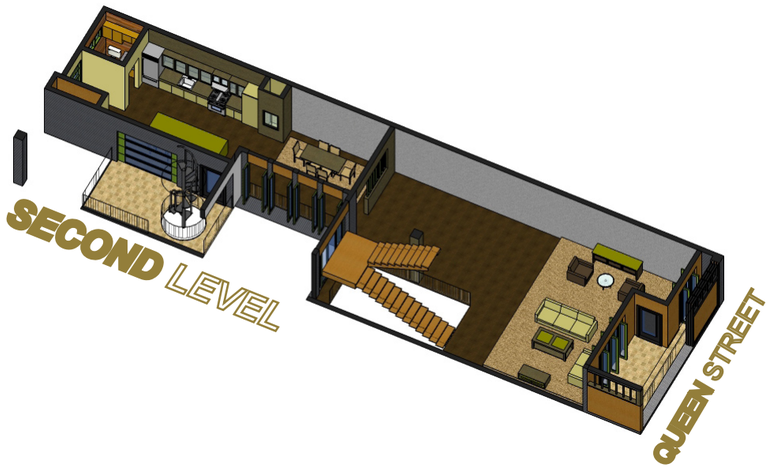
2ND LEVEL *LIVING*

VIEW FROM FRONT DECK LOOKING INWARD TOWARD LIVING SPACE

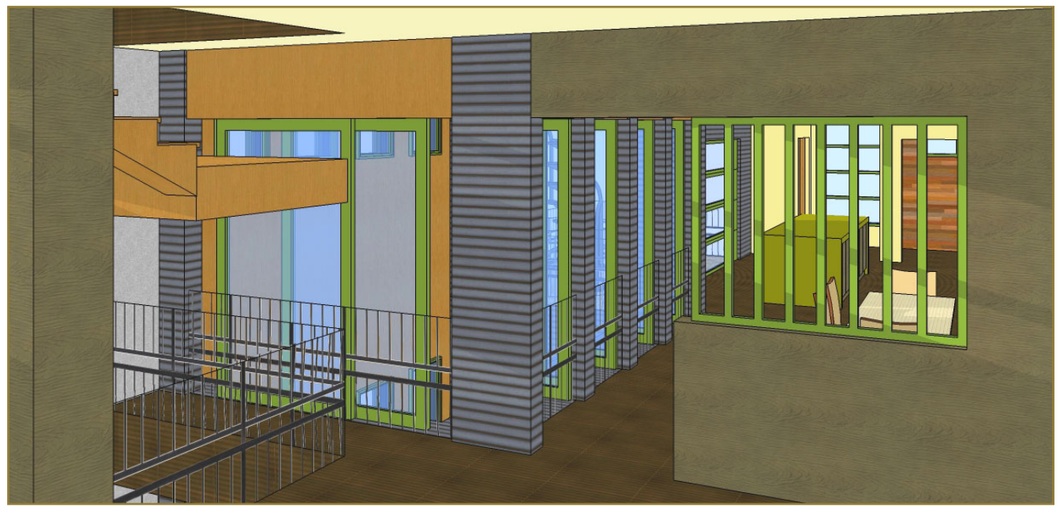


2ND LEVEL *LIVING*

VIEW FROM FRONT DECK LOOKING INWARD TOWARD LIVING SPACE



11.5 INTERIOR >

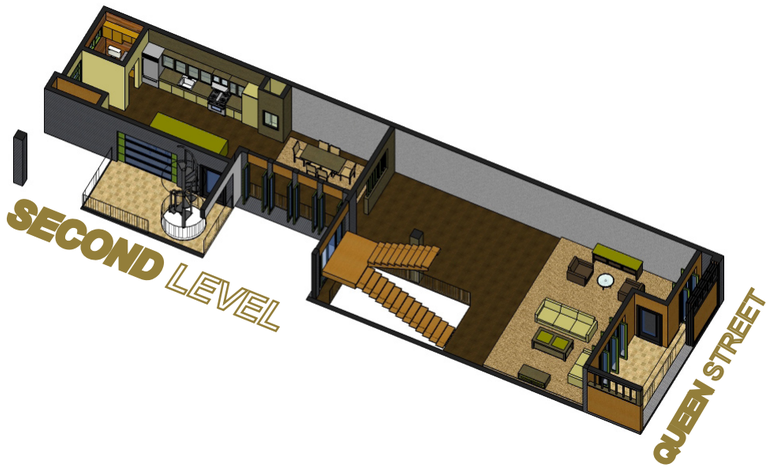


2ND LEVEL *AIRWELL + PARTITION*

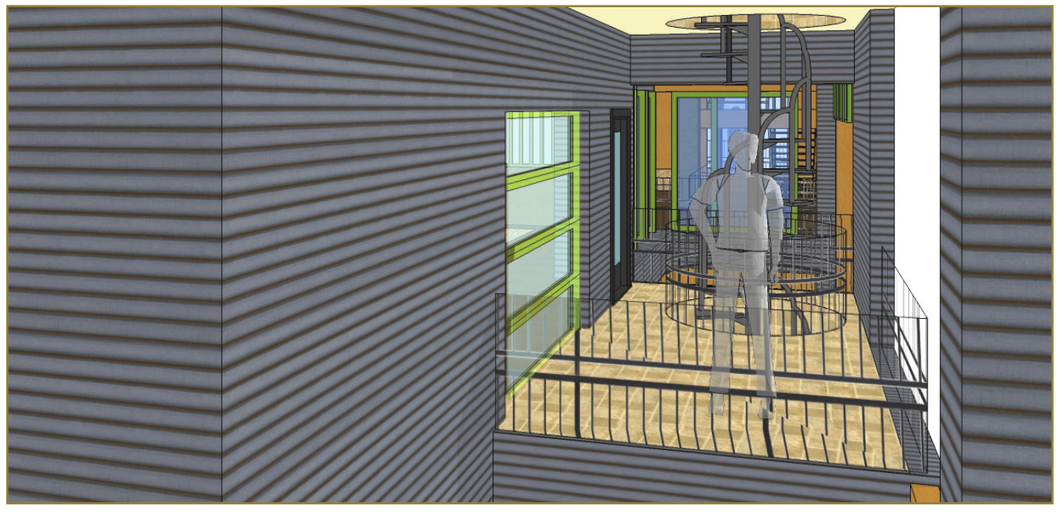
VIEW FROM LIVING SPACE LOOKING AT AIRWELL ON LEFT; PARTITION WALL AT RIGHT SEPARATING DINING AREA FROM THE LIVING AREA

2ND LEVEL *DINING + kITCHEN*
VIEW FROM DINING AREA LOKING REARWARD TOWARD KITCHEN

2ND LEVEL *KITCHEN*
VIEW FROM KITCHEN LOOKING FORWARD TOWARD DINING;
GREEN OVERHEAD DOOR LEADS TO DECK



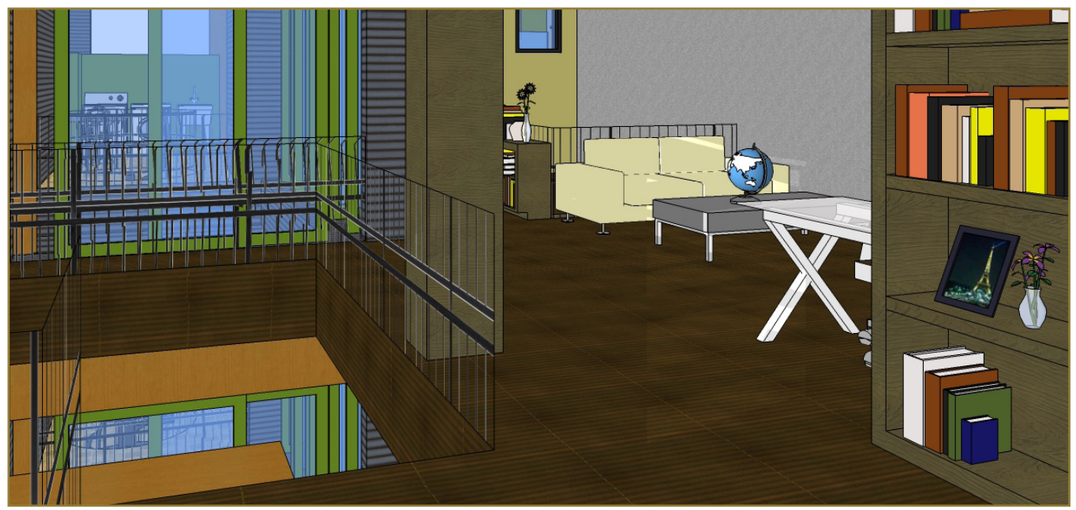
11.5 INTERIOR >



2ND LEVEL *REAR DECK*
REAR DECK SPACE WITH GREEN OVERHEAD DOOR LEADING INTO KITCHEN;
AIRWELL BEHIND SPIRAL STAIRCASE

3RD LEVEL *ATRIUM + BRIDGEWAY + DEN*

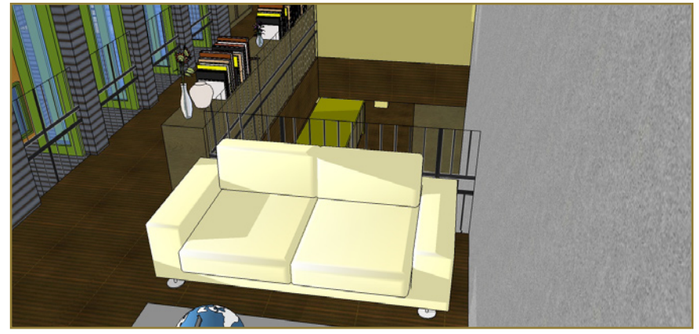
VIEW FROM ATRIUM WITH BRIDGEWAY AND AIRWELL ON RIGHT; DEN IN MID-GROUND AND LIBRARY IN BACKGROUND



3RD LEVEL *LIBRARY + DEN*

VIEW FROM LIBRARY WITH DEN ON RIGHT; STAIRWAY ON IMMEDIATE LEFT; AIRWELL AT LEFT REAR

11.5 INTERIOR >

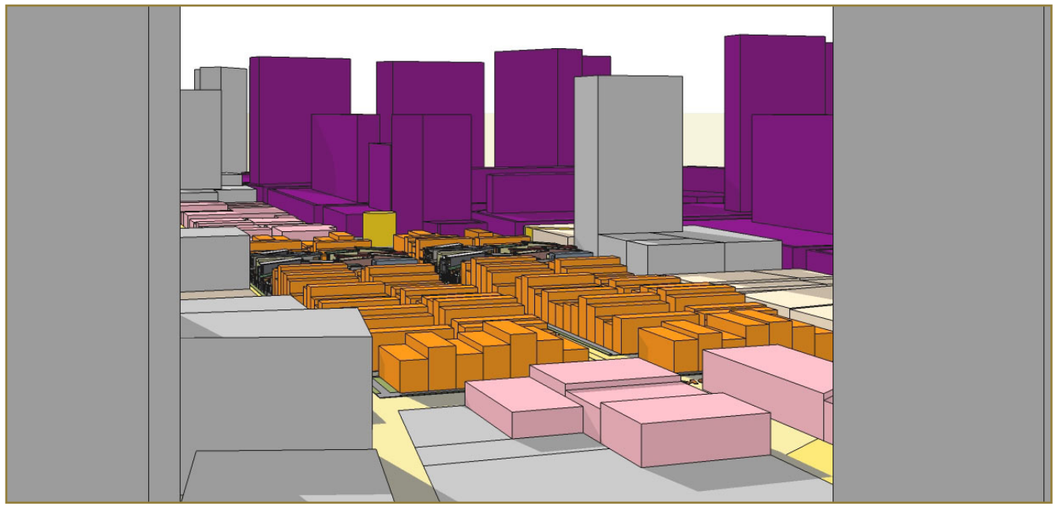


DEN *AND ATRIUM*

DEN IN FOREGROUND WITH AIRWELL AT FAR LEFT, BRIDGEWAY IN MIDDLE; ATRIUM AT RIGHT

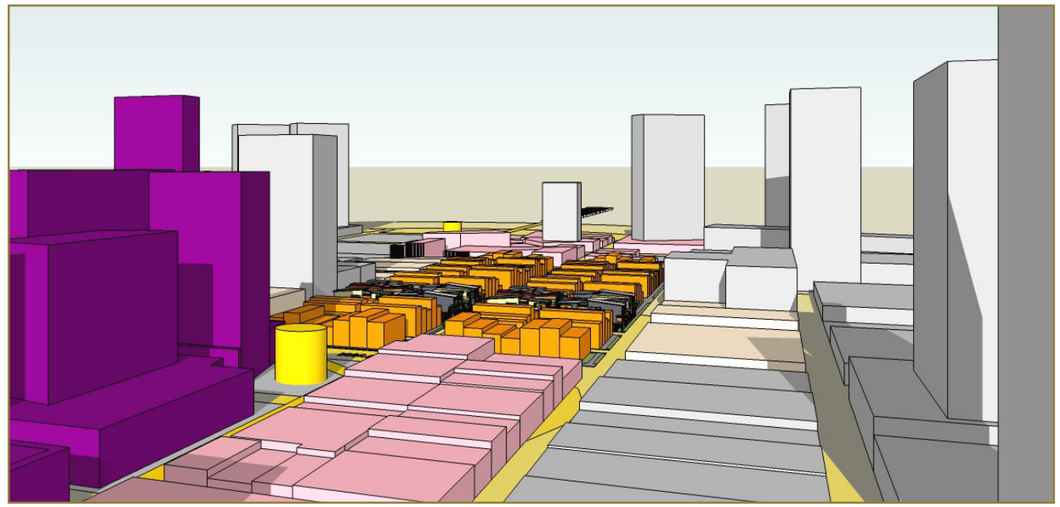
MASTER *BEDROOM*

VIEW FROM DECK LOOKING INWARD AT MASTER BEDROOM



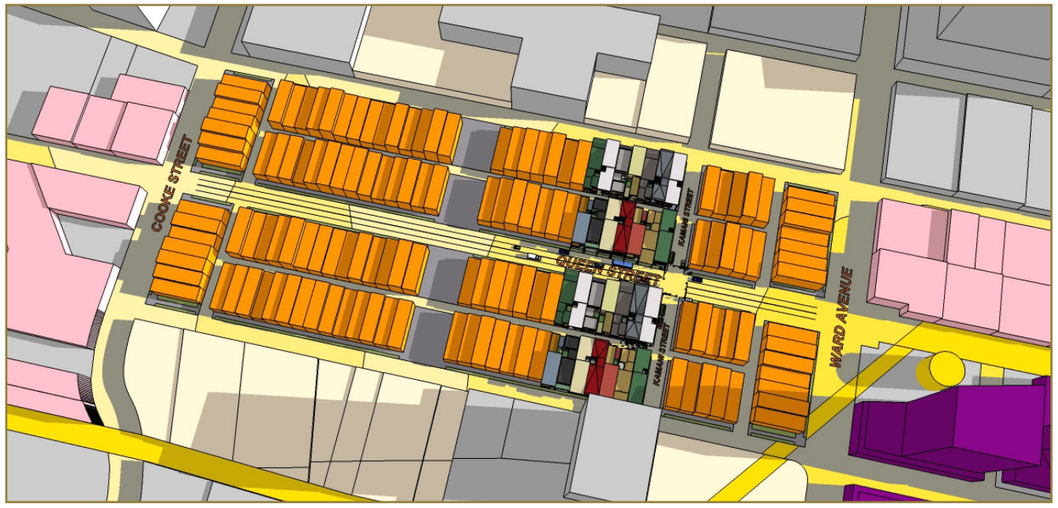
AERIAL: *SOUTH PERSPECTIVE*

VIEW FROM THE NORTH (MAUKA) LOOKING SOUTH (MAKAI) WITH GENERAL GROWTH PROPERTIES' PROPOSED MIXED-USE URBAN VILLAGE DEVELOPMENT IN PURPLE



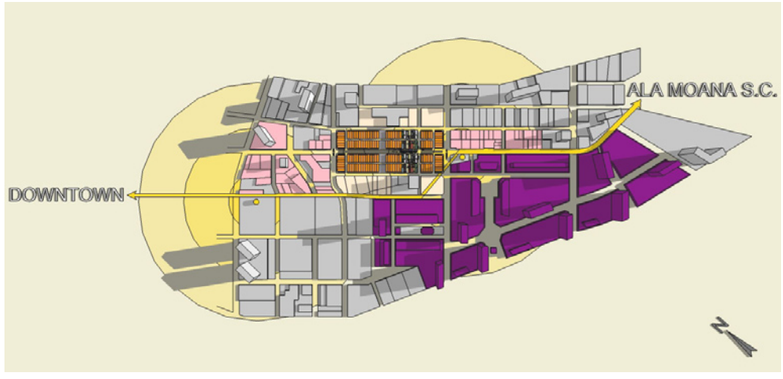
AERIAL: *NORTHWEST PERSPECTIVE*

VIEW FROM THE SOUTHEAST LOOKING NORTHWEST TOWARD EWA DIRECTION; SHOP-HOUSE DEVELOPMENT FORMS A MEDIUM DENSITY BUFFER ZONE BETWEEN THE HIGH-DENSITY FUTURE GGP DEVELOPMENT AND THE DOWNTOWN-CIVIC ARENA



AERIAL: *PERSPECTIVE*

ORANGE ZONE REPRESENTS THE PRIMARY SHOPHOUSE DEVELOPMENT ALONG QUEEN STREET IN CENTRAL KAKAAKO BETWEEN COOKE STREET (WEST) AND WARD AVENUE (EAST). SHOPHOUSE DEVELOPMENT SPAN FROM WARD TO COOKE IS NEARLY 1200' LONG AND ACCOMMODATES A TOTAL OF 172 SHOPHOUSES WITH A PLAZA AT MID-BLOCK ON QUEEN

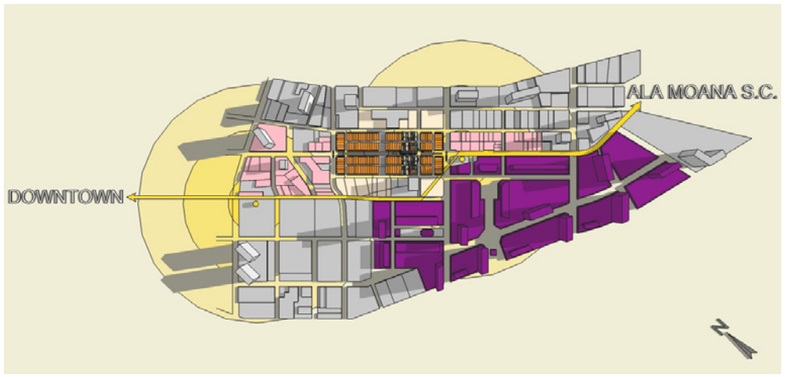


SIDEWALK *PERSPECTIVE*

VIEW FROM KAMANI STREET LOOKING WESTWARD AT THE INTERSECTION OF QUEEN AND KAMANI; MODEL-A SHOPHOUSE IS ON LEFT AND MODEL-B SHOPHOUSE IS ADJACENT TO THE RIGHT

SIDEWALK *PERSPECTIVE*

QUEEN AND KAMANI TRAFFIC INTERSECTION; LOOKING DOWN QUEEN STREET TOWARD COOKE STREET



11.6 STREET SCENE >

SIDEWALK *PERSPECTIVE*

VIEW DOWN THE MIDDLE OF QUEEN STREET LOOKING TOWARD COOKE STREET AND KEOLA LAI TOWER IN THE BACKGROUND

EIGHT-FOOT WAY *PERSPECTIVE*

WALKING EAST UNDER THE SHELTER OF THE PEDESTRIAN-ORIENTED EIGHT-FOOT WAY

EIGHT-FOOT WAY *PERSPECTIVE*

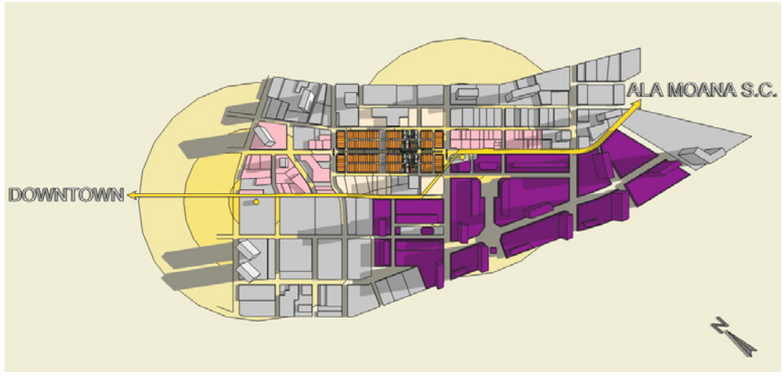
WAITING OUTSIDE A SHOPHOUSE BUSINESS WHILE SHADED IN THE EIGHT-FOOT WAY

SIDEWALK *PERSPECTIVE*

LOOKING WESTWARD DOWN THE SHOP-HOUSE LINED QUEEN STREET

SIDEWALK *PERSPECTIVE*

LOOKING EASTTWARD DOWN THE SHOP-HOUSE LINED QUEEN STREET WITH GGP DEVELOPMENT (PURPLE)



11.6 STREET SCENE >

WORK SPACE INTERIOR-EXTERIOR PERSPECTIVE

LOOKING OUT TOWARD THE CORNER OF QUEEN STREET AND KAMANI STREET FROM THE GROUND LEVEL WORKSPACE

LIVE SPACE INTERIOR-EXTERIOR PERSPECTIVE

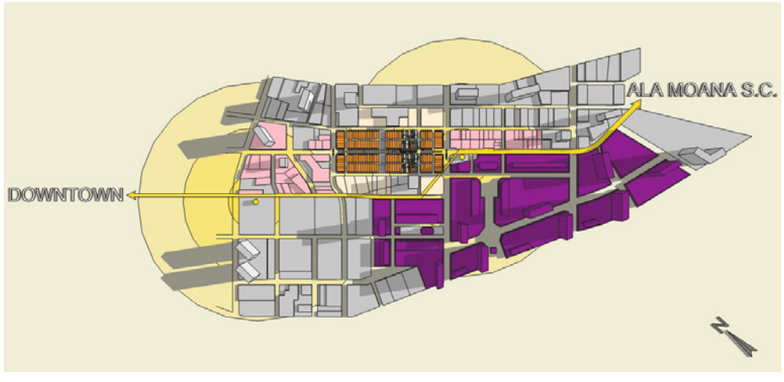
LOOKING DOWNWARD AT QUEEN STREET FROM THE SECOND LEVEL LIVING SPACE

REAR ALLEY PERSPECTIVE

LOOKING OUT TOWARD THE PATIO, GARAGE, AND REAR ALLEY FROM THE AIRWELL

REAR ALLEY PERSPECTIVE

LOOKING WESTWARD AT A NEIGHBORHOOD PARTY TAKING PLACE IN THE REAR ALLEY BETWEEN THE ROW OF SHOPHOUSES



11.6 STREET SCENE >

11.7 - Conclusion >

The DArch project provides a platform to validate the need for live-work spaces in urban Honolulu. The integration of shophouse-like structures into an environment such as Kakaako can bolster the urban fabric of Honolulu. The current deficiency of multi-use structures such as the shophouse have been detrimental to small business owners, entrepreneurial individuals, and the community at large. The intent of the design proposal is to address the legitimacy of how Kakaako, an urban community that is currently undergoing tremendous change, can implement live-work spaces as a viable architectural and urban design solution for its growing population.

For live-work to succeed, private and public entities throughout Honolulu must better embrace and promote true live-work structures like the shophouse. Live-work spaces promote a multitude of benefits that appeal to a diversity of lifestyles. The evidence is in the continuing prosperity of the shophouse in Southeast Asia (SE Asia) and small shopkeeperesque building types throughout the world. The vast demographic of individuals who utilize a shophouse as a place they call home and work or as a place to purchase a service or merchandise will continue to exist.

The five defining characteristics embraced by the shophouse have allowed the live-work structure to remain relevant throughout centuries of existence.

Five Defining Characteristics of the SE Asian Shophouse:

- Building to City Block-Neighborhood
- Building to Street
- Public to Private
- Living to Working
- Indoor to Outdoor

The research document and design proposal illustrates how the shophouse can initiate the transformation to help individuals pursue an enhanced quality of life. From the pedestrian-oriented nature to the live-work-play concept to the sense of place perception, the live-work shophouse is an ideal building type that rings true the realization of these notions.

The shophouse embraces its role of being a highly flexible and responsive archetype formatted for the live-work lifestyle. The basis of a living space directly above a working space makes unequivocal sense for a myriad of individuals. However, the people of Honolulu seldomly have the opportunity to practice a live-work lifestyle which is exactly what the design proposal is intent on revealing – live-work spaces need to be integrated in certain areas such as Queen Street in Central Kakaako.

The efficiency of how responsive a shophouse can be to its owner and user needs contrasted against a regular single-family home or office building is incomparable. Live-work structures like the shophouse should be looked upon in greater detail as a type of architecture and urban design solution for specific mixed-use locations. Although the majority of development in Kakaako is leaning toward high density towers with the General Growth Properties urban village in the east and Downtown Honolulu in the west (and possibly between two proposed transit stops), the development of a row of shophouses along Queen Street can be the perfect medium density complement as a relief between densities needs to occur to prevent a fortress of skyscrapers lining the South Shore of Honolulu.

The goal of this DArch project is to stir an interest in tapping the currently unrealized potential of what a building type like the shophouse can offer Honolulu in the form of a space that cohesively melds living and working uses under a single roof. The utility of

preventing urban sprawl while exercising New Urbanist principles would be foolish to ignore and not pursue.

In essence, what the DArch Research Document and Design Proposal boils down to is providing the people of Hawaii with diverse alternatives pertaining to the type of lifestyle each person wants to live.

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